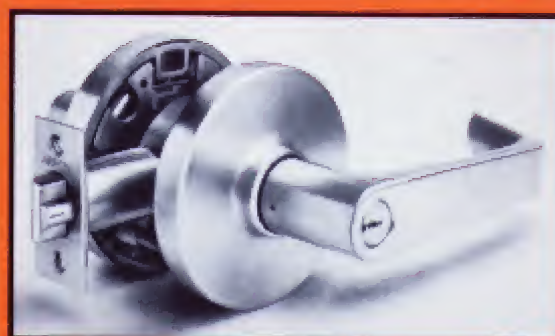


October 1989

The National Locksmith®



Manufacturer Profiles

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Shirl Schamp takes a look at a new mini-van from Nissan. She takes a close look at this vehicle. In fact she looked at it so closely that she even bought one! Shirl better quit bringing her checkbook to the dealerships.

26 Locksmith Manufacturers

Have you ever wanted to get to know some of your manufacturers better? Well, here's the perfect opportunity. A number of companies are featured here, telling you their stories and giving you information on their products.

58 Update On Ford's Probe

In this article, Bob Sieveking takes a good look at an old friend...the Ford Probe. There have been some changes lately which have caused some confusion for locksmiths. Here's your chance to get all caught up on the latest information.

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Jack Roberts gives this key machine a real work-over. Lucky thing it didn't arrive during Jack's usual nap time. But Jack was wide awake this time, and he'll tell you all there is to know.

76 GSA Security Container

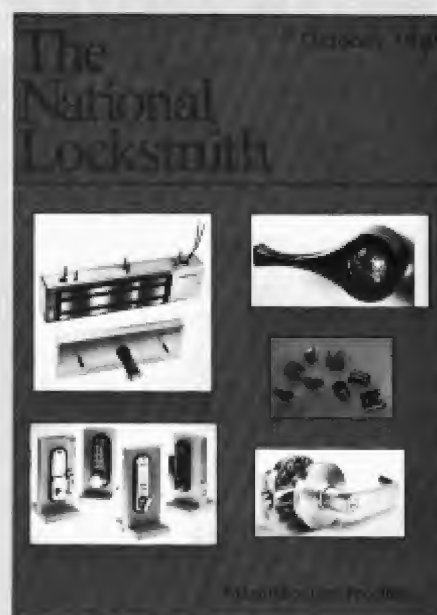
Did a measly old filing cabinet pick on poor Dale Libby? Well, he thought this job would be easy, 'til it turned out to be a GSA container. But Dale ad-libbed his way through the job and finally got it done.

88 News From ALOA

There has been a lot going on with the Associated Locksmiths of America lately. We have assembled much of this news into an article to update you on the most recent information. Remember, ALOA is *your* organization. Are you a member?

92 Master Large Pin Codes

These codes still have got a lot of holes in them. We are asking for your help in filling in the blanks. We have already added many missing numbers, and they are printed here. If you have any codes, please send them in!



On The Cover

This month we're featuring profiles of various locksmith manufacturers. Some of the companies profiled have their products featured on the cover: (clockwise from top left) DynaLock Corp.; Lindustries; C.H.A.M.P.S. Mfg.; Arrow Lock Co.; and Door Systems Inc. The profiles begin on page 26.

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you wish to read*

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Commentary

Tales From The Front

My friend Andy over at Action Lock & Key has told me some pretty funny stories. My favorite one was about the man and woman who were in the process of getting a divorce. Neither one of them, however, would agree to move out of the house. Seems that she worked the day shift and he worked third shift, so they didn't meet up too often in the kitchen.

I guess things were going pretty good until she got mad at him and called Andy out to change the locks one night. Next morning while the wife was at work, the husband called Andy out to let him in and change the locks back. The next day was a repeat performance with the wife paying to change the locks, and the husband calling the locksmith to handle the lockout and to change the locks again.

After about a week of this back and forth stuff, Andy just kept a key on the truck. He quit changing the locks, but everytime the husband called him, he went over and let the man in his house. Before much longer, Andy got tired of this and had to tell them both to get themselves another locksmith.

I think locksmiths frequently find themselves in an amusing situation. In fact, this issue features a letter to the editor from a locksmith with a funny tale to tell. I think it would be great if more of you would send in your funny and unusual stories of things that happen to you on the job. So send me your funny stories today. I'll send a free gift to every locksmith who mails me a story. Send them to me at 1533 Burgandy Parkway, Streamwood, IL 60107. Or fax your stories to (312) 837-1210. In a future issue, we'll print these stories and we can all sit back and enjoy them.

The area code for *The National Locksmith* will change as of November 11, 1989. Our new area code will be (708). That means our switchboard can be reached at (708) 837-2044. Our fax will be (708) 837-1210. Before November 11, simply use the (312) area code.

In my home, our front door is secured by a double cylinder deadbolt because there is a large pane of glass alongside the door. I don't want some pot head poking his hand through the glass and opening up my door. However, I am a bit paranoid about being trapped in the house in case of fire. Therefore, we always keep an extra key hidden near the door. We all know where the key is in case of fire.

However, I do wonder how *you* handle this type of situation. Do you warn your customers when installing double cylinder locks? Do you provide them with an extra key to be kept near the door? I know that some places have building codes that go so far as to prohibit these locks in several instances. But isn't that compromising on security?

I would really like to hear your opinions on this topic. So let's share a little information here. Another thing that makes me wonder is when I see a home secured all over with window guards. Some are made to permit emergency exit, but many are not. What would happen to the customer's family in case of fire? I also wonder if the security company would be held legally liable. It's something to think about.



Marc Goldberg
Editor/Publisher

October 5

Letters

Comments, Suggestions and Criticisms

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and lengths. Please address your comments, praise, or criticism to: Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.

Reader Offers Comments & Suggestions

I'm a little behind on reading your magazine but eventually will catch up and cover most of the fine articles and comments.

I would like to commend the police and fire department in our area. They are doing a fine job on house and car lockouts. They refer customers to me or one of my colleagues unless a life threatening situation exists. A retired fire chief once told me on non-emergency calls he asks the customer with a hammer in his hand which window they would like broken. Enough said.

On the serious side, I would like to see codes when printed in *The National Locksmith* be such that they can be easily removed without destroying the magazine. *The Locksmith Gazette* at one time had easily removable sheets and this worked great.

Charles E. Silberstein
California

P.S. I'd like to thank J. Cohen for bringing to my attention the Corby

calendar promotion on page 17 of the April issue. Without his or her help I'd have missed it. The calendar is great!

Restrictive Tool Sales Law Questioned

My letter is regarding the new federal law on restrictive sales of locksmith tools. My wife is a dispatcher for our county sheriff's department and they receive mountains of catalogs for police equipment and in all of them they sell complete lines of opening tools, from vehicle-type tools to pick guns and everything in between. One company even has some safe opening information.

I am not too clear on this new law, however, I do feel that somewhere down the line either the manufacturer or the shipper is in violation. There must be a way that we as locksmiths can put some pressure on the distributors or the manufacturers to require some form of written registration prior to the sale and/or shipment of locksmith tools, either through ALOA membership numbers, NLA membership numbers or some means of identifying the purchaser as a locksmith. The enforcement of this law will at best be minimal, as it is a victimless crime in the eyes of folks who are designated to enforce it.

I realize that there are situations where a police officer needs to be able

to open a vehicle in an emergency, but to have them going around opening vehicles as a "public service" is to some degree theft of business from every locksmith in the country. Most law enforcement agencies do not like to respond to a call and not be able to handle it. As a result of this reasoning they arm themselves with every tool and device imaginable to compensate for their lack of expertise in a particular situation, (i.e., lock picks, slim jims, pick guns, etc.). With the newer vehicles being geared to high security and the complicated door systems, the police need to leave the locksmithing to us.

Skip Smiley
Nevada

The Adventures of A Minnesota Locksmith

The following story is true. One evening last winter I received a call from a local realtor with a cabin on a nearby lake. She was having problems opening the locksets. After stopping at her office to get directions and the keys, I proceeded down a long gravel road with two foot snow drifts. The cabin was located about 175 feet from the dead end road with no driveway or lights. I quickly found that a seven foot drift blocked the door. After getting to the doorway, I found an inexpensive

Continued on page 112

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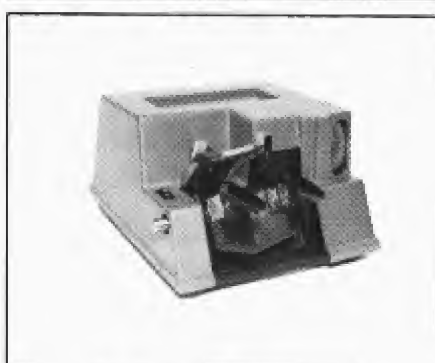
First Prize



HPC 1200 CM

The HPC 1200 CM machine makes accurate cylinder keys by code, quickly and easily. The ease of changing from one set-up to another is unparalleled.

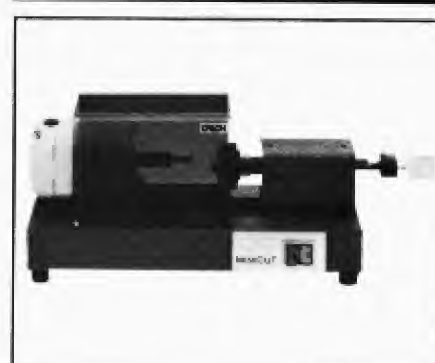
Second Prize



ESP 990 Manual

This machine features double-sided reversible jaws that eliminate the need for adaptors. The carriage is fixed to the sliding carriage shaft resulting in reduced play and less shaft wear.

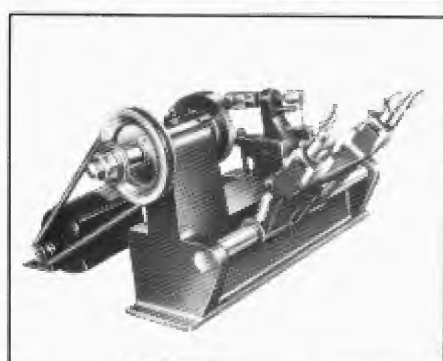
Third Prize



Ilco KD94

Cuts the 1137 tubular key, brass or steel accurately and quickly. Features include large chuck to hold standard size key heads, easily adjustable.

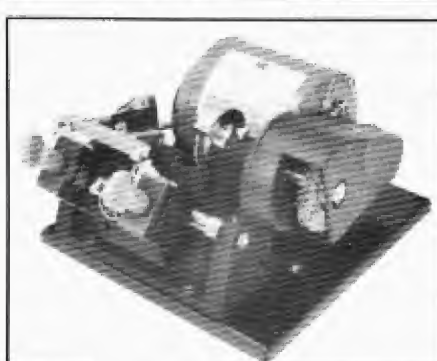
Fourth Prize



Belsaw 200

Duplicate, cut by code, cut flat steel keys. Complete machine with motor, three cutters, guides, and instructions. Built-in micrometer.

Fifth Prize



HPC 9160

Ideal for large key duplication. Equipped with fine double-sided jaws ensuring accurate cutting with little or no wasted blanks.

Sixth Prize

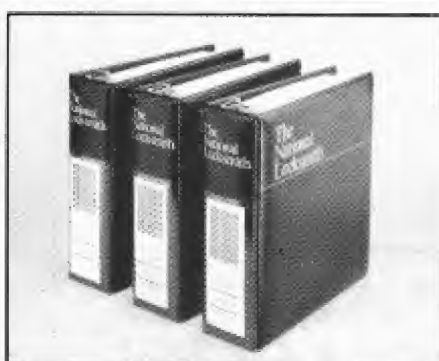


\$150 Cash

Everyone can use a few extra dollars! This prize will brighten your day...and fatten your wallet.

***** Code Books From *The National Locksmith* *****

Seventh Prize



General Code Book Set (NGCB)

These three books contain 450,000 codes covering domestic lock and automobile codes.

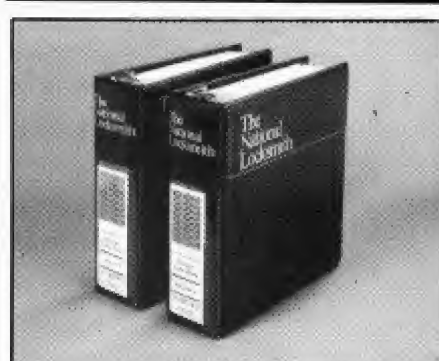
Eighth Prize



Padlock Code Book Set (NPCB)

These three volumes offer 462,000 codes covering Dudley, American (Junkunc), Master and Yale.

Ninth Prize



Foreign Car Code Book Set (NFCB)

This two volume set holds 432,000 codes for the complete variety of foreign cars, from Alpha Romeo to Yugo.

Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Robert Sieveking

We have a fresh set of Technitips for October, compliments of some of the greatest minds of the locksmith industry. Congratulations to all those that find their tips printed here. Your contributions are appreciated by all, and your names have been entered in the end of the year contest.

A quick check of the calendar will reveal that the sands of time are fast flowing through the hour glass. Very little time remains to have your name included in this year's contest. I'm sure that some of you read Technitips every month, and say, "I knew that" or "I do that all the time, that's nothing new." You are the same people that are going to be saying "I should have won that key machine or set of code books."

Just like the lotto, if you don't play you won't win. You probably won't win a million dollars in The National

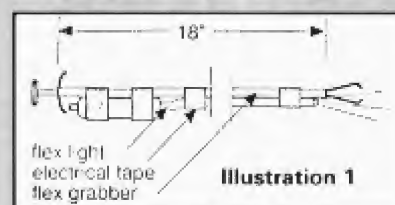
Locksmith Technitips contest, but you might win a brand new key machine. You probably won't win a million dollars in the lotto either, so save your dollar and send in a Technitip. Your chances of winning a key machine are pretty good. Think of it this way. Entering the Technitips contest saves you money!

October's Best Tip

I would like to enter the following in your Technitips contest. In a time when car openings are becoming more and more complicated, it becomes necessary for the locksmith to rise to meet the challenge. The following composite tool is designed to meet those challenges. I have combined a flexible light source and a flexible pick-up or claw tool. The claw tool has a plunger at one end, that when depressed extends a claw type grabber from the opposite end, to retrieve objects from otherwise inaccessible spots.

Purchase a small diameter flexible pick-up tool, at least 18" long, and a flex light. Join the flex light to

the pick-up tool with black electrical tape, keeping the light about 1/8" back from the tip of the tool as shown in illustration one. This tool is easier to use because the light and the tool move together in the door.



Put about a 20 degree bend in the tip of the tool for best results in most doors. The positive grabbing action of the tool makes it easier to use and minimizes the chances of slipping off or putting too much pressure on plastic rod clips or lock pawls. The tool can be reshaped as necessary for almost any job, but is rigid enough to move most linkages. A cable or fish line "come-along" at the tip of the tool will help if the linkage is too stiff to be moved by the flex tool alone.

Tom Spangler
Oregon

How To Enter

All you need to do to enter is submit a tip, covering any aspect of locksmithing to *The National Locksmith*. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Robert Sieveking, Technitips' Editor, *The National Locksmith*, 1533 Burgundy Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications will not be eligible! So get busy and send in your tips today! You may win cash, merchandise, or even one of many key machines or code book sets! At the end of the year, we choose the winners of the listed prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1989? Enter today! It's a lot easier than you think!

Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$25.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker, decal and patch. Plus you are now eligible for the really big prizes!

Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$35.00 in Locksmith Bucks! Plus you will receive a quartz Locksmith watch, a Bonded Locksmith bumper sticker, decal, patch and a Locksmith Cap. Plus, you may win one of the annual prizes.

The next time you find yourself trying to manipulate a combination lock and are having difficulty because the changes in the contact points are too small to discern, try this little tip.

Cut the "UPC" code strip (the universal product code used by the optical scanners at the checkout counter) from a paper package label. Then cut and attach the label to the dial of the lock with transparent tape. Tape an index for your manipulation aid to the dial ring, using a fine line cut from the same label. Place the index to measure the right contact point if the lock is mounted

right hand.

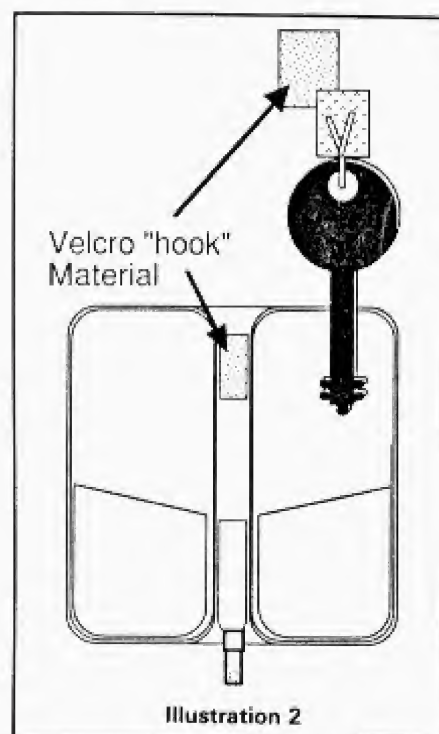
Because the lines vary in width, you will find that your eye will "lock on" to the contact point and be better able to see the changes in the location of the contact points. This method has helped me to open a few safes, and I feel that it is a good addition to the locksmiths "bag of tricks."

Jas. A. Rohn
New York

When it comes to tools of the trade, we all know that even the finest tools

don't do much good if you can't find them when you need them. Most of us are familiar with the experience of having the right tool but using what you can find because the right tool is not where it should be. This Technitip is a little help in organizing your pick case better.

I was searching for a method of storing a set of warded lock pick keys in my pick case without making the case too thick to carry in my pocket, and without losing the picks every time I opened the case, when I happened on the perfect solution. By fashioning a key ring from a piece of wire (paper clip) like the one shown in illustration two, and sandwiching the ears of the "lollypop-shaped" key ring between two pieces of self adhesive Velcro loop material, I had a key ring that could be attached anywhere.



A small patch of the hook material was stuck to the inside of my pick case, as shown, to allow the key ring to be "velcro'd" into the pick case with the tips of the pick keys in the center pocket of the pick case. (The center pocket is normally used to hold a saw tooth broken key extractor.) The keys are together on a small ring that lies flat in the case and they will not slip out accidentally and be lost. This idea could be extended to include any small tools that need to be organized or held in place in tool boxes, on the work bench, dash of your truck, etc.

Robert Ackerman
Illinois



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If most locksmiths are like me, they like to carry a set of picks with them, even in their off duty hours. The major drawbacks to this are the weight of the pickset in your pocket, the bulk of the pick case if you happen to be sitting on it or the lack of an appropriate pocket in your off-duty clothing. I finally solved this problem and think my fellow locksmiths would benefit from this Technitip.

Recently I found an Army pocket knife case in a surplus store that is a perfect fit for my pick set. This allows me to put my picks in a belt style case and eliminates all the pocket problems. The belt pick case is a lot easier on my pockets, and I don't have to sit on it all the time.

Thomas Rucker
Ohio

This tip concerns a method of opening the 1987 Jaguar. I was recently faced with the challenge of opening this car. After trying for several minutes between the door and the window glass, I found no way to contact or move the locking linkage. Well, thanks to *The National Locksmith* magazine, I remembered a Technitip that suggested that by removing the side view mirror from the door, it was sometimes possible to enter the car through the hole under the mirror, to open the door.

With the customer's permission, I proceeded to remove the driver's side-view mirror. After removing the mirror, I maneuvered my 'L' tool (see illustration 3) carefully through the

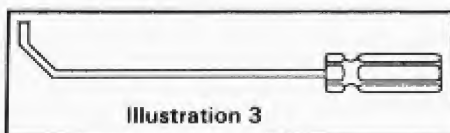


Illustration 3

front screw hole, to contact the locking lever. A gentle twist of the tool, and the door was opened. The customer was impressed and so was I.

Mike Esch
North Dakota

Here is a quick Technitip that might save you problems if you are called out to combine a safe lock and suddenly realize that you do not have the proper change key with you. Such was the case for me recently. I was called out to recombine a safe and found that the key I needed was not on the truck. The lock was an old York that required a small square key. Faced with either

disassembling the lock to recombine it or finding a change key, I searched the van for a suitable substitute.

The solution to the problem was found in the locking shaft of a Weiser entry lockset. The small square shaft was a reasonable substitute. With a little hand filing around the shaft and tip, the key was made and the job completed in short order. The lock was double-checked, after the combination was changed, to make sure that all the wheels were properly locked. I hope this tip helps a fellow locksmith that finds himself in a similar situation.

Jon Mussell
Idaho

Editor's Note: This method will work on this out-of-production safe. However, you should always take care to use only the correct key under most circumstances.

Here are a few drawings and an explanation of the "Rap" method of opening lock cylinders for service. After using this method on common cylinders, I discovered that the method also works on removable core cylinders.



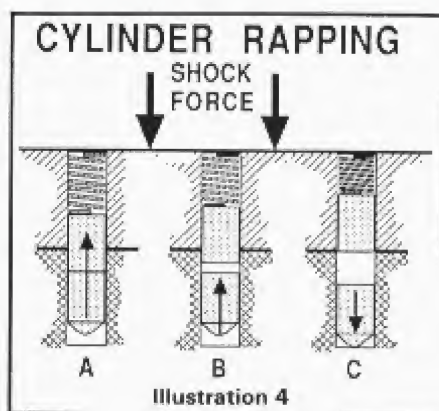
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The standard rap method of opening mortise and rim cylinders which have been removed from the door is quite simple. The first step is to remove the cam or tailpiece from the lock. The lock cylinder is held between the thumb and forefingers, so as to place a slight pressure on the plug which would cause the plug to move toward the front of the cylinder. The thumb pressure can be considered as the *tension* for this picking technique. The cylinder is then struck a sharp blow with a wood or plastic mallet or large hammer handle, from above the cylinder springs.

The alternate method to striking the cylinder would be to bring the cylinder down smartly on a hard surface, usually a hardwood block, to accomplish the same mechanical shock. Illustration four shows what happens inside the lock as the cylinder is shocked. In part A of illustration four, the total pin stack moves upward against the cylinder spring as a result of the shock force applied. The tension on the lock plug keeps the top pin from falling back to its original position, leaving the bottom pin to float free in the plug, as in part B.

The second blow of the mallet causes

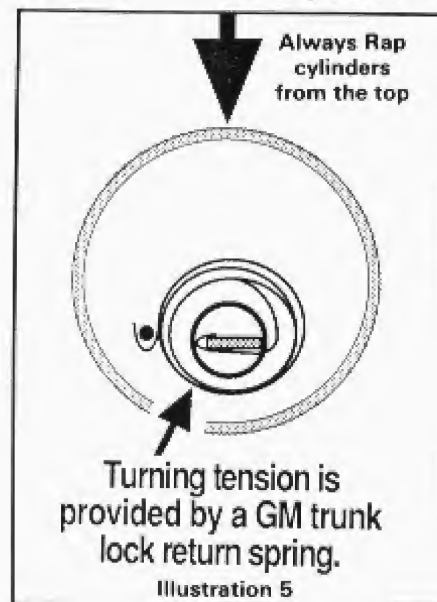


the free bottom pin to act as a sliding hammer in the cylinder, striking the top pin against the cylinder spring, until the top pin is hung at the shear line and the cylinder picks. At this point, the plug is slid out of the cylinder just far enough to keep the top pins from falling, and rotated to allow the plug follower to remove the plug without relocking in a half removed position.

With some practice and a little luck, this method is effective on a number of cylinders. The method works best on cylinders that have a large number of master wafers, weak (soft or light tension) cylinder springs and have loose tolerances overall. Use care not to

damage the cylinder while using this method.

In some cases, it is not possible to put pushing tension on the lock plug. This is the case with Best, Falcon or Russwin type removable core locks, which you must remove from the cylinder to access the actual core. For this special problem, I have had very good luck with a GM trunk lock plug return spring. The core must be picked to the



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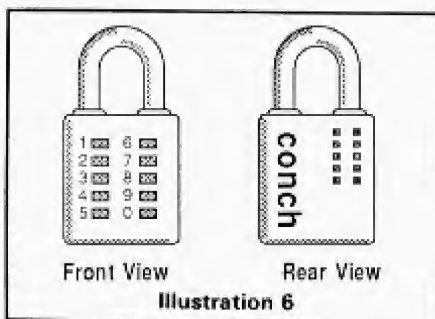
control shear line for service.

By attaching the spring as shown in illustration five, turning tension can be applied to the plug while the cylinder is rapped. You can hook the spring over the attachment screw if you are working with a deadbolt, or over a tailpiece screw if you are working with a rim cylinder. If the lock picks to the wrong shear line, simply turn the core back with a screwdriver and try again. When the lock is picked to the control shear line remove the core for service.

Steven Mathena
Tennessee

This Technitip concerns a method I discovered, which makes opening a "Conch" press-button padlock with a lost combination very easy.

From illustration six, if you examine the back side of the padlock, you will find that the press buttons are accessible from the rear. To open the lock, turn it over and push in on each of the buttons with a pencil. You will notice that some of the buttons will pop down about a sixteenth of an inch and some will stay flush with the back of the lock case. The buttons that pop down and



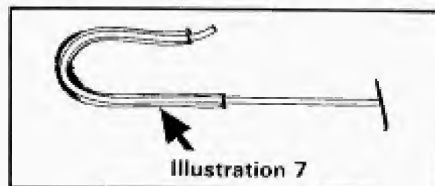
stay down are numbers in the combination.

Bob Hinkle
Oklahoma

This Technitip is for those that prefer to make their own car opening tools. The tools can be made from 3/32" copper-coated welding rod. The copper coating prevents the tool from rusting while not in use. A better choice of material for the tools would be spring steel music wire in the 1/8" size. The large diameter music wire is usually available at hobby stores that specialize in flying model airplanes. It will hold its shape better and allow you to manipulate the linkage without bending.

To increase the friction of the tools

on the linkage in the door, you can cover the working end of the tool with heat shrink tube or thin rubber tubing, as shown in illustration seven. These



materials are available at hobby or electronics stores. To slide the rubber tube easily into the tip of the tool, lubricate it with dish soap. Custom opening tools are useful sometimes, and if they are made of the proper materials they will naturally work better.

William Borner
Pennsylvania

This Technitip is concerned with an easy method of modifying wafer lock wafers to fit a new key. I recently needed some wafers for a key alike job. After rearranging all the tumblers, I found that I was still short a few #2 and #3 wafers. By hand filing the inside of the tumblers, I was able to modify #4

Continued on page 112



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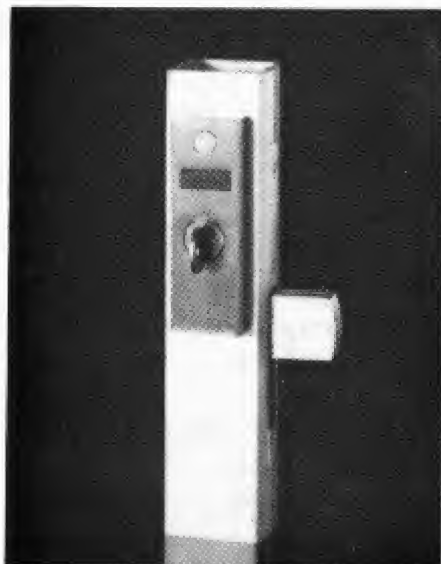
Newsmakers

New Products and Industry News

Scotsman DorGard Sales Are Up

Scotsman Security Products, Inc. has revealed that DorGard sales have greatly increased during the last six months. Up until now, Scotsman's primary market for DorGard's has been the large metropolitan areas. Due to crime spreading to the suburbs and small towns, they see a significant increase of product usage nationwide.

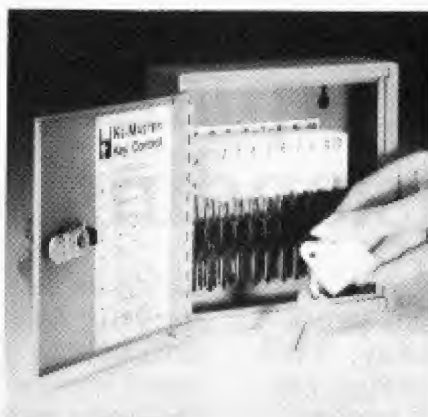
A major factor contributing to the success of Scotsman DorGards is that they offer protection at all levels of security for narrow stile aluminum doors.



Ke-Master Provides Mini-Cabinet

A compact, 10-key mini-cabinet designed for convenient safekeeping of the various keys used in a home or small office has been introduced by Ke-Master. The new Model KM-10-T cabinet provides a central location where keys can be stored in an organized and secure system.

The mini-cabinet is designed to be wall hung, and is supplied with ten numbered snaphook key tags for the matching slots in the key tag holder. A numbered index chart on the inside of the cabinet door can be filled in to show the lock location for each key. The key tags can also be written on to identify the keys. A quality lock and two keys is standard with Model KM-10-T.



Laminated Brass Locks From Master

Highly corrosive conditions such as salt air, rain, snow and sleet require the protection of "Weather-Tough" Master lock laminated brass padlocks. Specially designed for marine latches and sheds, or exposed industrial facilities, Master laminate brass locks come in a variety of sizes to fit many security needs.

For durability, the lock bodies feature layered brass construction and a patented dual-locking system to independently lock each shackle leg. Shackles are available in case-hardened steel for extra toughness, or brass for extremely corrosive conditions.



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Choice**

Adams Rite Strikes Fit ANSI Specs

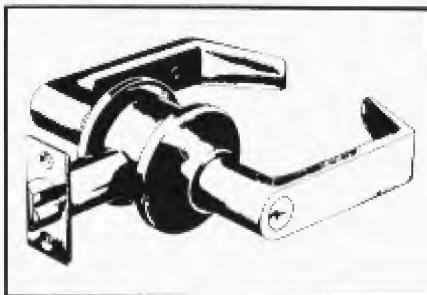
The increasing popularity of electric strikes has meant a growing problem for those who install them in hollow steel door frames. This is due to an old American National Standards Institute preparation spec. (A115.1) that was designed to allow a standard preparation of steel doors with big 1¼"×8" mortise latches and steel frames with the lipped ANSI 4⅝" long (non-electric) strikes. To allow for the differing bolt (and auxiliary bolt) locations of the various makes of latch, the spec calls for the strike plate center to be ⅜" higher than the latchface center. The various manufacturers have long provided their (non-electric) strikes to suit this offset.

The problem arises when a door and frame are prepared to that spec but in fact an electric strike is to be fitted. Most electric strikes are symmetrical—the strike must be positioned by centering on the latchbolt wherever it is. The ones that are not symmetrical are not sized to the ANSI 4⅝" size and lip shape.

Trans-Atlantic Co. Offers New Locksets

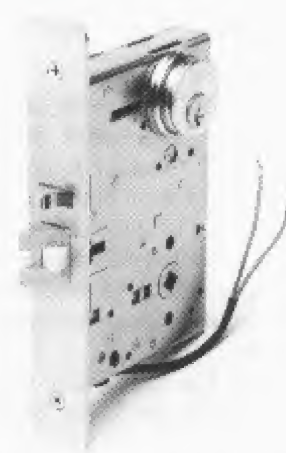
Trans-Atlantic Company offers a new series of ANSI grade one heavy duty cylindrical locksets in all popular commercial functions with either full size handicapped code levers and/or ball knobs.

The lever series is unique, since it is the only ANSI grade one cylindrical lock with a new patented feature to prevent lever sag.



ACSI Electric Lock Modification

Series 1500 lockmods from Architectural Control Systems, Inc. (ACSI) enable distributors to minimize modification costs on virtually any



lock and provide state-of-the-art access control. A value-added benefit is ACSI's fast factory turnaround and delivery.

ACSI's U.L. listed Series 1500 lockmods are suitable for any door access situation and offer fail safe and fail secure control modes to ensure reliable access control and security.

Series 1500 lockmods from ACSI are fully guaranteed. They offer cost-effective and convenient alternatives to manufacturer modification. As a single-source provider, ACSI enables distributors to modify new and existing inventories quickly. Access monitoring is also available.



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The Ram Company's Radar Watchdog

The Ram Co. announces the availability of the Ram Radar Watchdog security alarm. The unit requires no installation and there is no outside sensor which can be detected, tampered with or be subject to vandalism, by any possible intruders. The Watchdog can be easily moved to any location as the need arises.

The Ram Co. announces the availability of the Ram Radar Watchdog



electronic radar. This new alarm will detect even metal. When an intruder steps into the Watchdog's detection area, it will make loud barking sounds of a large dog. As the intruder moves the Watchdog will track the movements and continue to bark. As the intruder moves closer to the unit the more frenzied the barks become. Once the intruder stops moving or flees the watchdog stops barking and is instantly ready to detect any new intrusion.

Trendy Gifts Offers Novelty T-Shirt

Safe sex is a topic on many people's minds these days, so Joe Spooner, an artist for Carol Wilson designs, has come up with an amusing and artful expression of this concern. The "Safe Sex" t-shirt features two cartoon safes, one perched atop the other, expressing their mutual pleasure.

The shirt is 100% cotton and has been a best seller in New York at Trendy Gifts, according to owner Pamela Butler.

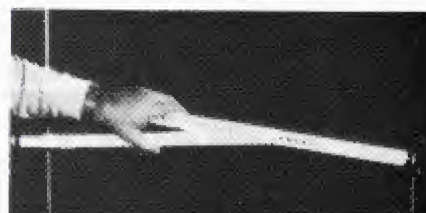


R.A. Morrison Protects With Snap-A-Lok

R.A. Morrison Industries Inc. introduces a new patented heavy duty security system for sliding doors and windows.

Snap-A-Lok is the bar that locks both doors and windows simultaneously and exerts sufficient pressure to prevent doors and windows from being lifted out of their tracks. The unit is excellent for travel as well as the cottage.

No installation is required. Simply adjust for width of door or window.



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American Lock & Supply Acquires Kenton

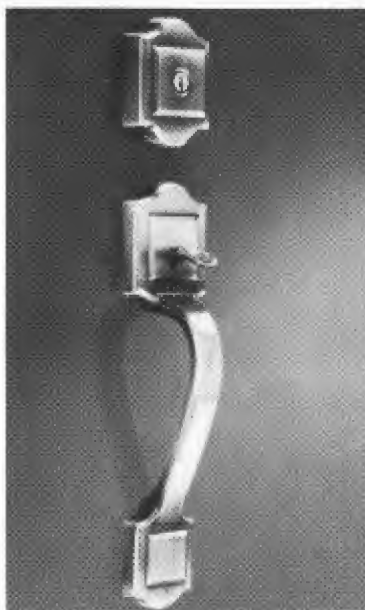
Kenton Locksmith Supply of Kansas City, KS has become American Lock & Supply's eighth stocking warehouse.

After 92 years in the locksmith industry in Kansas City, MO and Kansas City, KS, Kenton sold its business to the Anaheim-based door hardware distributor. In the purchase, AmLok received Kenton's 11,000 SKU inventory and the lease on its 16,000 square-foot facility. Also, all employees remain.

AmLok's immediate goals, according to President Sean DeForrest are to double the inventory dollars, add new items specifically sold in the market and improve the customer service level by adding additional employees and implementing AmLok's value added services.

National Lock Corp. Introduces Charter II

The Charter II, a new entry handle from National Lock Corp., features traditional styling with a matching deadbolt for added security.



The Charter II entry handle is packaged for retailers in National Lock's new handle-pack carton. This attractive new package design allows for maximum product visibility and provides retailers with an eye-catching merchandising tool. The Charter II entry handle is also available in boxed builder-pack cartons, designed specifically for builder/contractors.

National Lock is also introducing a

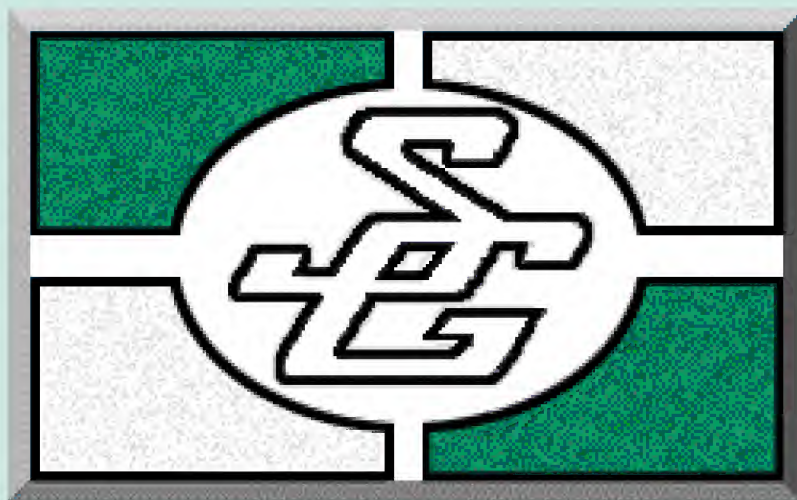
Charter II door knob, which complements the entry handle's traditional design. All National Lock door knobs feature an adjustable latch and "Universal" face plate fitting doors with 2 3/8" or 2 3/4" backsets.

ESP Introduces Wallet-Size Key Holder

Engineered Security Products Corp. recently introduced the Keywize, a wallet-sized key holder, to its expanding line of point-of-purchase retail accessories.

Made of durable vinyl, the Keywize is designed to hold two keys flat and securely in a convenient credit card sized sleeve to fit in a wallet or purse. A design feature allows you to slide the key blade through the end with your finger when used which avoids having to fumble with the key to remove it.

The Keywize comes in an attractive display package that contains 48 blister-carded pieces and two multi-colored point-of-purchase countertop display stands to maximize sales. All blister-cards are also punched for pegboard display.



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The 1990 Nissan Axxess

"There are various methods for making a key to this car. Some are easier than others, but I feel we should examine them all. There are a couple of new twists here."



Send your car opening questions to: Shirl Schamp, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Shirl Schamp



1. The 1990 Nissan Axxess.

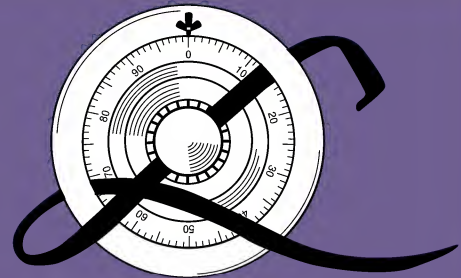
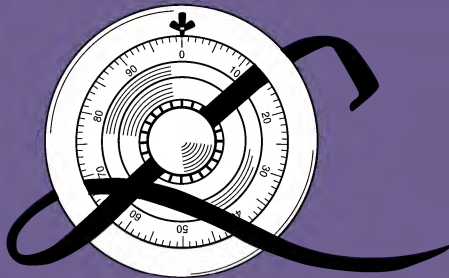
The 1990 Nissan Axxess is a very interesting mini van. (See photograph 1.) The design of the Axxess incorporates some of the things that we've been writing about and discussing during the past few years, such as a method of child proofing the rear doors to avoid an accidental opening by a child during

traveling. Nissan Corp. placed a lock button on the edge of the rear door that, when activated, will inactivate the inside handles on the rear doors. Another thing they've done to avoid an

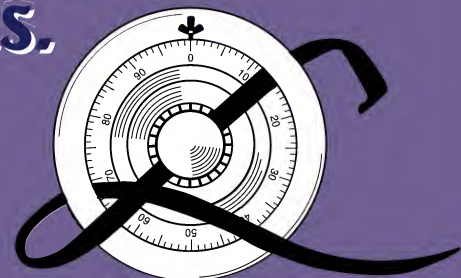
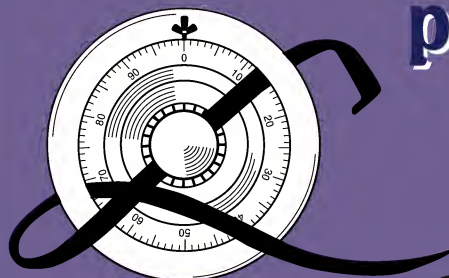
accidental injury to a child is to create a block within the window channel that stops the window from rolling down completely.

Store this knowledge in your bank of trivia, because it might keep you from trying to solve a problem that doesn't exist. Following that line of logic, let me give you some other facts that can boggle your mind.

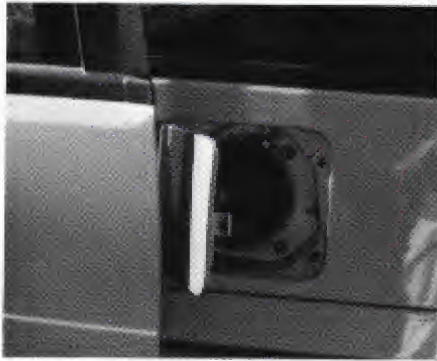
The rear door on the drivers' side will not open if the flap on the gas is open and the lever over the gas cap is pulled. (See photograph 2.) This has been built in to avoid damaging the gas flap door with the rear door. (On the Nissan Axxess the rear doors on both sides are sliding doors.)



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2. The rear door stops to avoid hitting the gas flap.

The key blank for this car is:

Code Series	X	Y
Silca	DAT12	DAT14
Taylor	X123	X124
Dominion	DT23	DT24
Curtis	DA-25	DA-26
Ilco	DA25	DA26

The key is cut in eight positions (the lock has eight wafers so we can assume that the code series would be the X and Y code series. The X and Y codes (8001-9000) are the same. (See page 336 of *The National Locksmith Foreign Car Volume one*.) The one we worked on had a code tag using the X series codes. Always check the glove com-

partment, or the inside of the door of Nissans and Datsuns for the code numbers. These numbers that you find on the doors seldom, if ever, will have the series letter that precedes the numbers of the code.

If you find this number use a process of deduction. You can determine the number of wafers by either counting the wafers in the ignition or checking to see if the wafers come in from both sides. You do this by using a paper clip or a hook pick. If the car has eight wafers, you should deduce that it's an X and Y code series. Only the X and Y series has the eight positions and is a true double-sided lock. If the lock has six wafers it is an M and N code series.

Now this presents another step in your deduction. (We're discussing Nissan in general here—not the Axxess.) If an Ilco blank X6 slides into a Nissan lock and the numbers you found are between 4001 and 5000 the series would be an M. If an X7 blank slides in it, it could be either, so take your best shot on only one side of the blank. Remember the key is a convenience key where the lock is single-sided, and the key is cut on both sides for ease of inserting. If it works, cut the other side and you are through. If it doesn't, try the other ser-

ies on the other side and if it works, duplicate that side on both sides of a new blank, discard the first key and you are through.

The procedure for opening the Axxess is basically the same, as what we have been doing for quite a few years. We determined that the linkage is vertical because we can see the lock button on the inside of the window near the glass. Place a wedge into the door between the glass and the door to create a working area. Next insert a Super "J". (Super "J" is a brand name of a tool sold by HPC. The tool is structured much like a Super Jim with a 3" bend in the end; a Slim Jim is usually about 3/4" wide, where a Super Jim is 1 1/4" wide.) Insert it into the door bowing upward, toward the inside of the car, and slide it over to the vertical linkage. The button will quiver when you make the contact. Then pull straight upward maintaining contact with the linkage. The structure of the tool will cause it to bind on the linkage bringing the button up with it. (See photograph 3.)

There are various methods for making a key for this car. Some are easier than others, but I feel that we should examine each of them. For example,



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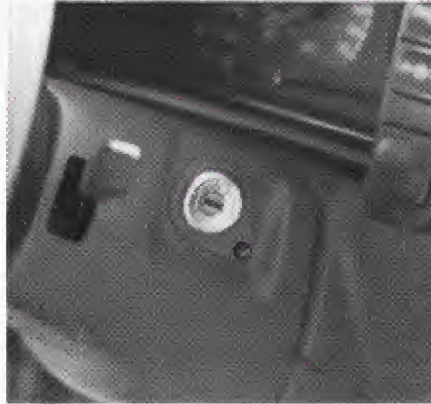


3. Tool shown binding on the linkage and pulling it up.

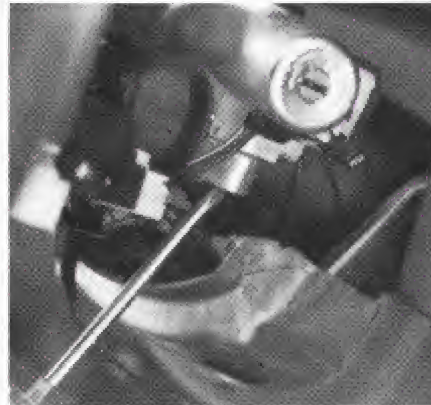
the ignition may have been changed and doesn't match the rest of the car any longer, or you might want to repair or extract an impossible key.

When looking into the car the ignition appears the same as they have always looked, (see photograph 4), but after you've dropped the shroud (the bottom half) you'll see that shear bolts are inserted straight up from the bottom. (A shear bolt is a bolt that the bow or head shears off after a certain amount of torque has been applied.) Use an icepick or an awl and a hammer to hack these off. (See photograph 5.)

You will also notice in photograph five there is another snag to overcome; a metal shield is coming up the column that will prevent you from having a straight approach to these shear bolts.



4. Ignition lock at first glance.



5. Backing off the shear bolts.

You can drop the shield to get it out of the way, or you could remove the roll



6. Removing the roll pin holding the cylinder in the ignition housing. pin that acts as the retainer that holds the cylinder in the ignition housing while the lock is still on the column. The pin is on your side of the lock facing you (see photograph 6).

The door lock seems to be a popular choice with locksmiths for making a key. For those of you that are new to the industry I would like to suggest that if you are going to pull a door panel and remove the lock, choose the passenger door. The reason for this is that if there is going to be a code number present, other than on the ignition, it will generally be on the right hand door. That does not mean there will definitely be one, but if there is, that's where it will be.

To remove the panel, begin with removing all visible screws (see photo-

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7. Remove all visible screws in the panel... (graph 7), and check carefully for small square or round plugs that you can snap out because you will often find a screw or bolt behind these plugs. For example, you may find a screw beneath a plug in the arm rest or in the bottom of the hand grip. (See photograph 8.)

After you have removed everything you can find, gently remove the panel. I say gently because I want you to watch the panel to see if it's totally free. If not,

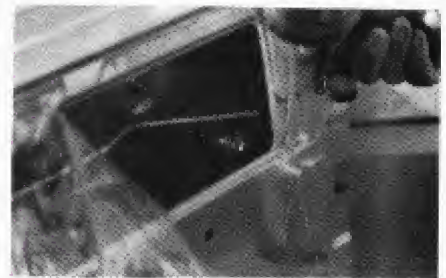


8. ...and find those hidden in other areas. pinpoint where the panel is still connected to the door, and you will find that they have cleverly hidden the screw or bolt behind something that will either snap off or slide off in one direction or the other. We found that after we removed the panel there were numerous wires connected to it that we preferred not to deal with, so we just rotated the panel and left it connected. (See photograph 9.)



9. Door panel still connected, but rotated to the side.

Now it is time to remove the lock. If it does not present too great a problem, we like to disconnect the linkage first so that we will be able to take the lock to the bench to work on it. On this car it is just a matter of using a long screwdriver to release the connector. The connector is made of plastic so try not to be too rough. (See photograph 10.)



10. Releasing the plastic connector.

Next remove the clip holding the lock in. This is usually best accomplished with either a pair of vise grips or a pair of channel locks (plumber's pliers). (See photograph 11.)



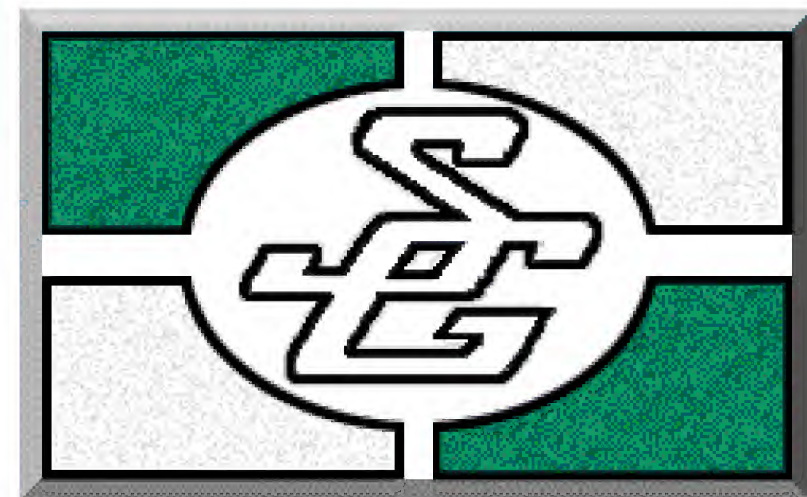
11. Removing the lock holding clip.

I think it was great that Nissan Corp. engineered a lock with a built-in window (see photograph 12). With a feature like this, it does not matter whether you have a code number or not; you can see all eight wafers. Four of the



12. The Nissan lock with a "built-in" window.

Continued on page 113



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Locksmith

Manufacturer Profiles

In this section, a variety of locksmith manufacturers present you with vital information about their background and regarding their product line. This is a good chance to get to know your manufacturer better. The manufacturer depends on you, the locksmith, to get his product to the end user. Therefore, most companies are happy to help the locksmith with information, literature, and even training.

Take advantage of this section to learn more about some of the companies manufacturing the products you purchase. Each company has been assigned a Rapid Reply number. You can easily request more information about any company and its product line. Simply circle the correct number on the Rapid Reply card which is located between pages 116 and 117 in this issue.

Abloy Security Locks

Wartsila Security Inc. (Abloy Security Locks) was established in 1974. In 1985, Abloy relocated to Dallas, Texas from Niles, Illinois to share production facilities with sister companies Ving-Card Systems, Inc. and AWL.

Wartsila is an internationally diversified corporation based in Finland. Wartsila has production plants in Finland, Sweden, Norway, France, Singapore and the United States. The Wartsila Group has over 16,000 employees. Abloy Security Locks is a member of Wartsila's Security Division. The corporation is also involved in areas like shipyards, engines, sanitary techniques, factory automation and porcelain products. One common characteristic shared by all of Wartsila's Divisions is specialization in highly sophisticated market niches.

The Abloy lock success story begins with a device invented at the start of this century by an office machinery mechanic who realized that a lock could operate on the same principle as a cash register. The result was a lock based on rotating slotted discs which offer an almost unlimited number of different keying possibilities.

Abloy Security Locks assembles and

distributes a full line of high security cylinders and padlocks in two distinct product lines; Abloy® Standard and Abloy® Disklock products. Local manufacturing includes plating, tail-pieces, cams, product modifications and assembly to meet customer requirements.

Abloy standard products are well known in both the coin-op and OEM markets. Most major vending, bottling and laundry equipment manufacturers and distributors are users of Abloy standard products. With the deregulation of the telephone industry, several independent companies are now manufacturing pay telephones. Abloy has captured a significant market share of the high security locks for this fast growing pay phone market.

In 1982, the innovative and patented high security Abloy Disklock product line, designed especially for the North American market, was introduced. Abloy/Disklock cylinders are adaptable to locksets produced by major commercial grade manufacturers and are particularly suitable for applications requiring masterkeying, pick resistance, key control and physical strength. Hospitals, school buildings, office complexes, correctional institu-

tions, casinos and industrial plants are among the users of the high security Abloy Disklock products.

In recent years the high security market has enjoyed superior growth with estimated retail sales of over \$200 million. With this growth, the need for convenient and reliable access control and high security locking systems will continue to rapidly increase. Abloy Security Locks is well positioned to participate in the growing demand.

Alarm Lock Systems, Inc.

It has been 25 years since Alarm Lock first began manufacturing security equipment. Founded on Long Island, the company invented the first reliable "alarmed lock" for emergency exit doors which quickly became famous throughout the industry. Alarm Lock had truly found and serviced a growing need that would later evolve into today's multi-million dollar access control market.

In 1987, Alarm Lock was purchased by Napco Security Systems, an innovative company and leading U.S. manufacturer of burglar alarm equipment. Vice President of Sales Richard Pala-

dino immediately focused on research and development to improve and expand the product line. In the first quarter of 1989, Alarm Lock introduced a new series of electronic panic bar alarms, with programmable alarm outputs and convenient 9 volt battery designs. These were soon followed by delayed egress panic bars to further deter use of restricted doors. The soon-to-be-released Access 2000 will revolutionize single door security with options never before available in an inexpensive system.

Alarm Lock Systems is rapidly becoming a U.S. manufacturer that can offer products for all of your security needs. Presently they offer a wide range of American-made equipment for fire safety, access control, burglar alarms, space protection and electronic locking devices. These products are backed by a program of nationwide distributors, educational seminars, trade shows, local sales representatives and technical hotlines.

Circle 275 on Rapid Reply

American Shield Corporation

American Shield Corporation is one of the newer names in the lock industry, opening doors in Dallas, Texas,

three years ago. In addition to its corporate offices, the company has a full warehouse in Dallas with most products stocked for 24-48 hour shipment. Their products are sold through a network of sixteen representative agencies across the U.S., some of which also stock products for quick shipment to local customers.

American Shield markets two lines of exit devices which include a cross bar and a modern push pad device. The push pad design is the main thrust of American Shield's business. Available in standard and fire-rated models, the 90 series rim device and 93 series vertical rod device are stocked in three painted finishes, some plated finishes, and available in custom colors and finishes. Interchangeable trims and accessories for the push bars have been designed with simplicity in mind — all can be installed easily in the field, and are built to fit both rim and vertical rod devices.

In addition to safety and fire tests, all push pad devices meet the ANSI A156.3 requirements. These requirements cover strict finish and security tests; devices with ANSI A156.3 certification are known by many people as "UL Grade 1" devices.

The other series of products marketed by American Shield is a cross bar line, the 8000 series rim and 8300 series vertical rod. These devices have been tested by UL for accident hazard applications, and are sold in complete packages with device and trim shipped together. Stocked in two painted finishes, they can also be ordered in custom finishes.

American Shield's main concept is to provide top service and quality to every customer. According to Don Fowler, vice president and general manager, "We have built the line slowly, adding products a few at a time, in order to grow with our customers. We want them to remain faithful because of the extra attention and service we are able to provide."

"The benefits that their products offer will also keep customers coming back," Fowler says. "While the market is price-sensitive, we are elected to offer a quality product at a reasonable price rather than cheapen the product to sell it at a lower cost. The materials used in all of these products are top quality; you won't find cheaper metals in our non-fire rated products just because they don't have to withstand a fire."

Devices sold by American Shield

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American Shield

Continued from page 27

Corporation fit most any door—narrow stile, wood or hollow metal. Their latest introduction is a vertical rod cross bar device that can be mounted on tempered glass doors and frames.

American Shield is a subsidiary of the French lock manufacturer Chauvat-Sofranq, or "JPM" as they are known worldwide. JPM is potentially the oldest active lock company in the world, their first locks having been fabricated in 1645.

Architectural Control Systems, Inc.

Architectural Control Systems, Inc. (ACSI) is a full-service designer and manufacturer of high quality access control systems and is celebrating its tenth year of operation.

ACSI was founded in 1979 when the company's principals acquired the assets of Hager Control Systems, a division of Hager Hinge Co. of St. Louis. Today, ACSI is respected for engineering, designing and manufacturing a full range of access control, proprietary and OEM security hardware products which meet the many diverse needs of the architectural and security hardware industry.

ACSI's state-of-the-art equipment and electronic systems are installed in every type of commercial and institutional environment, including prisons, airports, office buildings, banks, public and private schools, universities and merchandise centers.

In addition to manufacturing high quality equipment for nationwide distribution, ACSI modifies the complete spectrum of commercially available door hardware to operate under control of a security or proprietary access system. In modifying hardware, ACSI provides enhancements and electronic components which blend perfectly with any style of architectural hardware.

ACSI also develops complete sets of wiring diagrams, installation procedures, and "user-friendly" operation manuals which make systems installation and integration easier.

ACSI's skilled engineering staff modifies virtually any type of architectural hardware and prides itself on delivering products on schedule. The company's modification expertise includes mortise locks, cylindrical locks, mortise exit devices, vertical rod and

rim exit devices, hinges, pivots and many other devices. ACSI modifications permit very flexible integration with other access control devices, such as pushbuttons, keypads, cardreaders, key switches and electric or pneumatic systems.

As a full-service provider, ACSI completely manages system engineering from project concept to final approval of turnkey systems. ACSI has become a nationally respected source of design and manufacturing expertise by providing high quality products and innovative services which satisfy the many needs of industry professionals.

ACSI is a company dedicated to advancing security system technology, developing important new products and services and creating value for customers which guarantees their satisfaction.

Arrow Lock Manufacturing Company

Arrow Lock was established in 1949, as a result of the merger of several lock companies. Arrow specialized at that time in the design and manufacture of tubular and cylindrical locksets and accessories. Mortise and heavy duty locks were added to the line during the 1960's, increasing the company's scope substantially. Since that time, additional products have been marketed, resulting in Arrow's becoming a full line manufacturer with national and international distribution. More recently, interchangeable cores, innovative lever handle designs and expansion of the company's auxiliary lock lines have been significant introductions.

Arrow was acquired by Kidde, Inc. in 1971. Kidde bought a number of companies during the early 70's, ultimately forming a Security Group comprised of Arrow, Sargent, McKinney and Curries. In a leveraged buyout, the Security Group was purchased by L.B. Foster Co. in 1986. Foster decided to sell the four companies to Essex Industries in August 1987. Essex was organized by a group of investors lead by Beacon Capital Corporation, a closely-held Canadian organization.

As part of Essex, Arrow has focused its efforts on the supply of quality

hardware for the total door opening market. To this end, the company has recently introduced full lines of door closers, exit devices and alarms, for commercial, residential and remodeling applications. The company has increased its manufacturing capabilities considerably and now offers customers both faster delivery and more efficient order processing. Expansion in its research and design areas provides the marketplace with new and significant products, increasing sales opportunities. Extensive changes in many other areas have resulted in improved efficiency from order entry to shipment.

Most recently, Beacon sold Arrow and its sister companies to a group of investors led by Merrill Lynch Capital Partners. This became effective in December, 1988. To further solidify its foundation and form an even stronger organization, Essex combined with another Merrill Lynch-owned company, Amstar Corporation, establishing a new parent company called Estar Holdings, Inc.

Arrow has, as a result of these changes, emerged as a formidable, flexible, market-sensitive company which reacts quickly to the demands of its customers. An experienced sales organization, automated production systems, high quality control standards and other contemporary techniques place Arrow in a unique position to supply virtually all door opening requirements.

Auto-Security Products

Until 1980 it was almost impossible for a locksmith to obtain service parts for European and Japanese car locks. Replacement locks were available only through the car dealers, and usually only on a special order basis. And in many cases individual locks could not even be purchased, as locks were only available in complete sets. Those were the days when locksmiths were virtually shut out of the imported car lock repair business because of a lack of service parts.

The situation changed in 1980 when Auto-Security Products entered the market with the first service parts for European and Japanese car locks ever available to American locksmiths. Although the company initially offered less than one hundred different line

Auto Security Products

Continued from page 28

items, the small selection was more than had ever before been available to locksmiths.

Although ASP made its first sale in 1980, the organization stage of the company began several years before. The founder and president Ross A. (Buddy) Logan began his career in the industry as a locksmith. The idea for ASP began in the early 1970's when the popularity of imported vehicles in the USA began to increase. It was very frustrating for a locksmith in the 1970's with increasing numbers of imported vehicles causing increased demand for lock service on those vehicles but with no service parts available.

Several years of discussion with overseas car lock factories, including four trips overseas to visit several of the factories, resulted in ASP's first sales in 1980. Negotiations with the lock factories in those days were difficult to say the least. Most factories could not understand why anyone would want to buy service parts for car locks which they considered disposable items. Some factories refused to supply any parts

because of their loyalty to the car manufacturing companies who for obvious reasons would like to keep their monopoly situation intact whenever possible. And buying new tooling to manufacture needed parts was out of the question because of the cost compared to the relatively small volume potential. However several friendly lock factories were found so that enough parts could be obtained for ASP to begin operation in 1980.

Unfortunately because of the nature of the car lock industry outside North America in the 1970's many of the first parts offered were not built to the standards of the most American made products. Of course this is why there was such a demand for the service parts; the locks were breaking down because they were poor quality. Also many imported car locks were not designed to be serviced or rekeyed, as evidenced by cases where service parts were not perfectly interchangeable between two similar locks manufactured by different factories or by the same factory in a different production run. But the goal of ASP has always been to offer the locksmith the best quality product available at any time,

and to constantly seek ways to upgrade product quality and selection whenever possible.

The efforts over the years have paid off. The ASP product line of 1980 compared to today is like the Wright Brothers' first airplane compared to a fleet of 747's. ASP now offers over one thousand different service parts for imported car locks. And in continuing their tradition of filling gaps in the marketplace, ASP now offers a selection of service parts for the 10-tumbler American Ford door and ignition locks.

The key to success for ASP has been their distribution system. Support by the established locksmith supply distributors was critical to ASP, especially since the ASP line is smaller in volume and often more difficult to manage than many other product lines in the industry. As such ASP had to make the product line worthwhile for distributors to stock. So ASP was committed from the beginning to selling only through locksmith supply wholesale distributors and to avoid direct locksmith accounts. This was important to ASP for two reasons. First it would have been impossible for ASP to effectively service the thou-

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Auto Security Products

Continued from page 30

sands of locksmiths across the nation on a direct sale basis. Also by selling directly to locksmiths ASP would have been competing unfairly with their distributors.

Several unique benefits were also offered to distributors as incentives to properly stock the ASP line. Such benefits have been built around stocking guidelines by which each item in the product line is issued a popularity rating based upon sales history for that item.

A new item is issued a popularity rating based upon projected demand considering the popularity of the car of application along with the potential need for the item due to breakage, vandalism, etc. The approximately 150 most popular items in the ASP product line have been given "A" popularity ratings. Distributors must stock at least all "A" rated items to be a stocking distributor. Distributors who stock all "A" and "B" rated items (at this time approximately 450 part numbers) are considered full line stocking distributors, although some choose to stock every item avail-

able in order to better serve their customers.

CCL Security Products

CCL Security Products (formerly Corbin Cabinet Lock) has a rich and varied history.

Originating in 1879, P&F Corbin Company formed a separate department to manufacture cabinet locks. In 1882, a new company was formed called Corbin Cabinet Lock. The original officers in the company included Phillip Corbin, president and treasurer; and Andrew Corbin, secretary and general manager.

In 1883 a new building was erected exclusively to hold the new Corbin Cabinet Lock. By 1885, CCL employed 175 workers and it was apparent that the company was becoming a major factor in American lock manufacturing.

By 1928, CCL produced thousands of locks and miscellaneous cabinet hardware items that were displayed in its hardcover 650-page catalog. In 1946, CCL introduced the Sesamee combination padlock; which enhanced its line of small locking devices.

By 1964, years after becoming a part of the American Hardware Corporation, controlling interest of American Hardware was purchased by Emhart.

In 1987 The Eastern Company of Naugatuck, Connecticut, purchased CCL from the Emhart Corporation. Eastern, the parent company of varied hardware and lock companies, was seeking a sales, marketing, and manufacturing company that was involved with the locksmith industry. Eastern identified the locksmith industry as a progressive industry, and felt that CCL would be an excellent company to spearhead growth for Eastern in the market.

To ensure that the manufacturing end of the business would mesh, Eastern hired several engineering and manufacturing people with many years of experience. Under the leadership of Operations Manager Gary Mlynarski, CCL's production is up and running and making up for time lost during the transition.

Currently CCL is introducing aggressive new programs designed to make locks easily accessible to the marketplace. The sales office under the direction of James Madigan, is staffed with competent people capable of offering technical product information

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and specific referrals on where CCL products can be purchased.

CCL recently introduced an entirely new product line entitled the "International Line." This product line allows CCL to enter many new market segments (some of which were available only to O.E.M.) that CCL previously was unable to accommodate.

New products include: switch locks of various types, sizes, and amperages; pop out handles and cylinders; cam locks in various sizes, competitive keyways, and price points; tubular keyways; and brass body padlocks.

A century later, the company's continuing commitment to excellent quality remains strong, and CCL has taken great strides to improve service and meet the needs of all valued customers.

Circle 283 on Rapid Reply

Champs Manufacturing

John McKernan, president of Champs Mfg., holds several patents on lock security devices which includes a fully enclosed deadbolt lock mechanism which is tamper-resistant. He has always been very intrigued by locks and is very experienced in the lock security field. He will be giving seminars at the M.L.A. and the Connecticut Locksmith Association this year. He will demonstrate his technique in opening many of the locks on the market today, and covering options in protection with the most security.

The Champs is an economical alternative for the customer who is unable to afford the top of the line deadbolts and keysets. The Champs will also substantially upgrade your existing deadbolts and keysets. If someone wanted to keep the antique look of a wooden door, you wouldn't want to install latch protection plates or big rosettes, or even escutcheon plates. What is nice about the Champs protection shields is that they fit in the lock internally and are not seen, therefore no unnecessary holes ruin the beauty of your door.

All the Champs lock protection shields are installed through the bored lock hole 2" or 2 1/4" first, then it is secured when the lock is installed. Easy installation instructions are packaged with the Champs deadbolt or key and knob sets. Champs is completely concealed and shows no signs of modification on the door.

Champs fits most tubular deadbolts, from standard duty to high security, such as Medeco and Abloy locks. Once

the device is installed on these locks there is virtually no way for the burglar and his ice pick to penetrate the lock.

Circle 284 on Rapid Reply

Detex Corporation

Detex Corporation traces its origins to Abraham A. Newman (1851-1915), who entered the watchlock industry in 1878. Newman initially made and sold stationary watchman's clocks, working the market from Boston to Philadelphia in a horsedrawn wagon.

More than a salesman, Newman was attentive to his customers' suggestions—and he was inventive. In 1901, he received a patent for recording watchtours by means of embossing times on a paper chart inside the watchlock itself. In fact, embossment became an important tamperproofing principle—one that Detex still utilizes.

Today, with more than 100 years of security experience and innovation, Detex Corporation's products and services cover many areas of property protection and life safety.

Serving customers throughout the world, Detex manufactures and markets a complete line of exit security hardware, user programmable access control systems, watchlocks and electronic watch-tour systems.



At their New Braunfels headquarters, located near San Antonio, Texas, dedicated design professionals work to engineer new security products, consult with users, and manufacture and deliver high quality products.

Detex security and safety equipment is used throughout the world in commercial, industrial and office buildings; hotels and motels; hospitals, schools and institutions; and government facilities.

Their worldwide distributor network ensures that you get the security products you need on time as ordered. Their attention to detail has earned Detex a reputation for reliability.

Detex protects businesses and industry with state-of-the-art applied technology from experienced security pro-

fessionals. Their security hardware products can be integrated into complete security systems to help protect property effectively and efficiently.

Dentco Access Control Systems restrict entry to those with an authorized encoded card. The systems include a keypad with pushbutton codes for an additional level of security. Programmable Dentco II offers 900 card capability with up to five access modes.

Detex emergency exit alarms and locks allow emergency exit from the inside, but sound high-decibel double horns warning of unauthorized use or forced entry from the outside.

Detex also offers remote indicating panels, switches and a variety of other signaling and property protection devices. All Detex security hardware can be combined as you require to protect your entire building or complex.

Reliable Detex watchlocks supervise guards, ensuring that they make their rounds as scheduled, on time, in sequence.

The Guardsman Watchlock records watchmen's activities on a 96-hour, continuous, tamperproof tape. Economical Newman with 24-hour dial is equally dependable. Safe-T-Chek stationary clocks record tours on a 7-day dial.

CompuTour is Detex's computerized watchtour system that adds electronic accuracy and efficiency to guard tour supervision. The guard touches a lightweight tour recorder to numbered tour stations mounted on walls along the route. After each tour, the recorder is plugged into the Central Control Module for instant printout of the rounds. If desired, tour records can be saved on tape or diskette.

Circle 285 on Rapid Reply

Door Systems, Inc.

The Digital Door Lock™ is the main focus for Door Systems, Inc., a new company that opened its doors January, 1989 in Hatboro, PA. Realizing the need, importance and the future of keyless access controls, the three principles of DSI took an established, high quality lock that was only offered in two styles and finishes and began a company that now offers seven models, including a full-size lever handle, and 10 finishes. Even though each lock is packaged complete for installation, DSI also offers a variety of accessories for modifying the lock, such as over-sized knobs and assorted latches.

With over 30 years of combined

Door Systems, Inc.

Continued from page 33

experience in the security industry, the founders of DSI recognize that mechanical, keyless access control devices are important to the residential market, as well as to the commercial market. With that in mind, two of the founders, Alan Scotkin, a locksmith for over 18 years and David Deardorff, who heads the marketing and sales programs, combined their skills in research and development to bring in new models and finishes as well as to design and patent new versions of the established product line.

Their work has expanded the line to include models that not only fit ANSI 160 and 161 standards, but also work with a variety of panic exit devices and lock accessories of many well known security manufacturers.

Understanding that a high quality, trouble-free product line is not enough to be successful, DSI is a very service-oriented company. DSI sells its product line through stocking distributors and authorized dealers whose sales people are instructed in the installation and application of the product

line by DSI personnel or its manufacturers' representatives. Also, the telephone is a most important tool for DSI. In constant contact with its customer network, DSI answers application and installation questions, in most cases, on the first call. This is due to the fact that the Digital Door Lock is an easy lock to install and service and when you call DSI directly, you are probably talking with one of the owners.

To help understand the Digital Door Lock product line, DSI offers architectural specification sheets on its models, as well as installation instructions in Spanish. For specialized applications, DSI will discuss the installation directly with the installer, making recommendations and when necessary, offer alternatives.

Customer Service at DSI is further enhanced by its lead time. Most orders are shipped within 24-36 hours from its fully stocked suburban Philadelphia warehouse. All special orders and repairs are done on location, as well. DSI realizes that when dealing with security time is an important factor.

Advertising is important to the success of any company and DSI has begun an aggressive campaign on behalf

of its customers. Tanya Kunevich, one of the owners, heads the Advertising and Marketing Communications at DSI and works with the customers in their advertising programs. Tanya is available to assist in copy writing and to provide artwork and literature for DSI's entire customer base. In addition, a consumer advertising program has just been launched and will take on larger proportions in 1990, to support DSI's customers' customer—the consumer. Educating the consumer that there are simple, affordable and attractive mechanical, keyless access control devices available is an important goal for DSI. Right now, however, DSI is concentrating on offering a good product and excellent service to its customers.

DynaLock Corporation

The DynaLock Corporation is a relatively new company that was formed in January of 1989. The company is new but the depth of experience in engineering, customer service and manufacturing by the staff and management goes back to the initial devel-



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opment days of electromagnetic and electric deadbolt locking in the early 1970's.

Ralph Sittnick, former president and founder of Security Engineering Inc., has established a no frills product offering with heavy emphasis on product flexibility, a building block approach to putting systems together, and a user friendliness. Sales, service and shipping are handled at the 5,000 square foot main office located at the Redstone Hill facility with manufacturing and transfer/injection molding being performed at a second 3,000 square foot facility located in an adjacent industrial park.

Years of experience in the industry has shown a marketplace that is being rapidly expanded by customers with varying degrees of product experience, a desire to take the mystery out of electric locking and make it understandable to someone that's not a graduate EE, and have the ability to service their customer in a reasonable or in some cases an unreasonably short period of time. The DynaLock product line has attempted to go the extra step to achieve those goals.

For example, most magnetic lock



companies offer multiple models of locks that only fit specific applications, all being available in the four low voltages 12 or 24 volt AC or DC. Consider the possible mathematical combinations of applications and voltages for a product that must be stocked or built to fill your order. For a customer to stock magnetic locks in sufficient quantities a large portion of warehouse area must be dedicated. Many manufacturers also have difficulty coping with a finished goods inventory area and prefer to build to order. In both cases to ship product requires a compromise of an overly large commitment of warehouse area or additional delivery lead time to build to order.

Now consider the DynaLock alternative. They offer one electromagnetic lock that will install on single or pairs of doors, in or out swinging and will operate consistently well on any of the four common low voltages due to the dual winding coil design and built-in rectifier. Bonus features include a one-piece aluminum housing that slides into position with no visible mounting screws or visible seams for maximum resistance to weather and tampering, plus the ability to change hands to match the hand of the door.

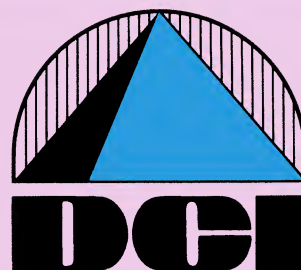
The user friendliness goes beyond the magnetic locks. Push button exit controls may be adjusted to operate on momentary or alternate action modes, and keyswitches may be ordered or retro-fitted to offer 13 different combinations of styles and switch modes. The power supply is solid state, rugged built, and modular, giving the customer the final choice of degree of sophistication and cost.

DynaLock's sales philosophy is very basic: provide a quality, understandable product, price it competitively and ship from stock.



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Fort Lock Corporation

Fort Lock was founded in 1952 by Sidney Falk. Their main product line consists of cam locks, vending and game machine locks, specialty furniture locks, and switch locks. Products are sold through a nationwide network of manufacturer's representatives, and support is provided by the large in-house sales staff.

Fort Lock has always prided itself on timely deliveries of quality products. Their product line is constantly being expanded to meet the growing and changing security demands of the industry. At the ALOA convention in July, Fort Lock introduced their Apex® product line. Apex is a patented tubular key locking system which incorporates pick resistance, four levels of patented key control, and durability to resist corrosion and forced entry.

With the introduction of the Apex line, Fort Lock rounds out its product line. Also available are single bitted (3000 and 4000 series), double bitted (5000, 6000, and 9000 series), and Gem® and Gematic® tubular (1000 series) key locks. Because of the diversity of the product line, the end user is able to define his security requirements.

Several years ago, Fort Lock introduced the Multi-Function line. The concept of Multi-Function products is to enable the locksmith to carry in one bag all the parts necessary to make four or five different locks. This reduces the locksmith's inventory substantially. All Multi-Function locks are rekeyable, and rekeying kits are available from wholesalers nationwide.

Multi-Function locks are available in single bitted (3000 series), double bitted (9000 series), and Gem tubular key (1000 series) lines. Apex Multi-Function locks will be available soon. Cam locks are available in different lengths with all three levels of security. Multi-Function specialty locks are also available, including desk/drawer, switch, and showcase locks.

To expand upon the Multi-Function concept, Fort Lock developed the Ship Fast program. They stock all Multi-Function locks in five popular keyed alike codes and various keyed different codes, and the locks are available for shipment to the wholesaler within three to five days of receipt of the order. Also, quarterly promotions of Multi-Function locks are run to encourage locksmith participation in the Multi-

Function program. The promotions include reduced lock prices and free Multi-Function parts and accessories.

Fort Lock is located in River Grove, IL. All manufacturing and assembly is done there. To ensure prompt delivery, Fort Lock employs the most sophisticated MRP system in the industry. Product quality is assured with full in-process and outgoing statistical quality control processes. The development of several aggressive marketing strategies has enabled Fort Lock to experience tremendous growth in the last several years. Their commitment to servicing their customers is representative of their ultimate goal: customer satisfaction.

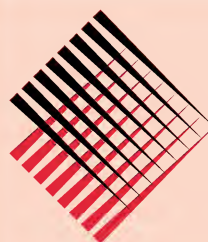
Gardall Safe

Syracuse, New York has always been the home of Gardall Safe Corporation. In the late 1940's, Henry Bluestone, the founder of Gardall was a salesman for Mosler Safe Company. Mosler decided to close it's manufacturing operation in Syracuse and move all manufacturing to Hamilton, Ohio. Henry did not want to move to Ohio, so in 1950 he decided

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Gardall Safe

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to start Gardall Safe Corporation along with the assistance of George Bloch. Henry's responsibility was sales and marketing and George was responsible for manufacturing. As one would expect, the insulated safes that Gardall produced at that time looked a lot like the Mosler insulated safe.

The business steadily progressed and under the economic pressure of expanding the business, Henry decided to sell Gardall Safe Corporation. He sold it to Adolph Falso and his sons in 1970, and Henry stayed on as sales manager.

The Falso's background was in manufacturing heating, ventilating and

air conditioning products, and sheet metal fabricating. This proved to be very helpful in improving the construction quality of the safe line and under the Falso management the company continued to grow.

Adolph "Butch" Falso became very involved with the company in 1978, making many innovative changes to the insulated line and adding new safes to the product line. Gardall continued to focus on a small line of premium quality safes for home and business use.

The ownership of Gardall changed for the third time in its 36 years in July 1986. The new owners are David Patton and Edward Baroody. As was true with the Falsos, the new owners are dedicated to continuing the Gardall

tradition of manufacturing premium quality safes with strong construction and handmade extras that are not available on imported safes.

Gardall sells and distributes its products through a strong network of stocking distributors. This program was designed to make it easier for locksmiths or safe dealers to get product faster and at a more competitive price. Additionally, freight costs are reduced and sometimes eliminated.

Gardall Safe Corporation manufactures a full line of insulated safes that are constructed of materials that make them heavier and stronger. Their small and medium-size insulated safes have the Underwriters Laboratories (UL) 1 Hour-350° label. The larger insulated safes have a factory tested 2 Hour-350° label.

Gardall's unique "Z" series safe is an insulated safe with a "B" rated burglary construction money chest welded inside its interior. They continue to manufacture a high quality line of rotary and front loading depository safes, floor safes and wall safes. They recently redesigned the "In Floor Safe" line to produce a quality unit at a more competitive price. Additionally, they added key and combination safe doors that will interchange with each other as well as most other safes in the burglary line. The interchangeable door makes it easier to remove a door, in case repair is necessary, or to interchange a key for a combination door, or visa versa. Obviously, this gives the dealer the flexibility of offering his customer the choice of a key or combination operation on any burglary safe in his stock. All Gardall safes are equipped with Sargent and Greenleaf locks, dials and dial rings.

Gardall's current venture was moving their factory and offices to a new location. Still located in Syracuse, New York, their new state-of-the-art facility has 50,000 square feet which is twice as much manufacturing space as before. The new facility has an improved material flow which will give them the opportunity to increase productivity and expand the line. If you are passing through Syracuse and would like a tour of the new plant, just give them a call.

Hirsch Electronics Corporation

Hirsch Electronics is a California based manufacturer of electronic access control systems. Unlike complicated



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card access, Hirsch offers the first truly secure form of digital access. More and more locksmiths are learning the advantages electronics can offer, and the ease and flexibility of installing and using Hirsch systems.

The ScrambleLock, which allows multiple access codes to be entered with absolute security, is a way to step up to electronic access without obtaining an electrical engineering degree. Customers are pleased with its ease and flexibility, and this has generated many new sales.

Once the locksmith has become comfortable with the basic product, the additional control offered by the Hirsch Model 2 and Model 8 allow the customer to grow in both size and capabilities. The installation procedures are the same as for the ScrambleLock, but the programming level can be kept basic, or extended to solve sophisticated problems.

Hirsch is more widely known in the alarm industry, but locksmiths are beginning to recognize that electronics is here to stay. Therefore, you will begin to see Hirsch product become more easily available through normal distribution channels. In fact, Hirsch is now distributed by both Von Duprin and American Lock and Supply.

If you are serious about having electronics be part of your future, consider becoming a factory trained installer. Call Hirsch to find out about arranging a class for your group, or about attending a class at our factory or one of their distributors.

HPC, Inc.

HPC is a family owned and run business whose product line began in 1934. Incorporated in 1956, HPC has a commitment to the industry based on two ideals: dedication to the unsurpassed quality of its products and the guaranteed satisfaction of its customers. This philosophy has proved to be the cornerstone of the success of HPC,

Inc.

HPC specializes in manufacturing products for industrial, commercial, institutional, office, automotive and security markets. These products include a wide array of key and code cutting equipment designed to duplicate or generate by code any type of key from standard to high security.

HPC also manufactures a complete line of security key control systems including metal key cabinets (Kekab) for both key control and key security (ranging in capacity from 8 to 730 keys

in either a one or two tag system), specialized security cabinets (Chem-Kab and Medi-Kab), Key Control Racks and Key Keeper Boxes.

HPC manufactures an extensive line of door hardware and guard plates designed to protect all types of doors and door locks from unauthorized forced entry.

HPC offers a wide selection of locksmith shop tools, picks and pick sets, car openers and other related products. Everything from pins and springs to precision micrometers and assembly



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HPC, Inc.

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tools are available through an authorized HPC distributor.

HPC is a major publisher of technical manuals, a quarterly publication, textbooks and leads the industry with up-to-date code books and code referencing material. Their code books provide over 9000 pages (over a dozen books) of lock codes and lock code information from around the world in the most popular format of 8½" by 11".

HPC Soft, the software division of HPC, produces standard-setting software programs for the industry in code management, standard master keying, removable core master keying, key blank cross referencing and key control record keeping. HPC Soft provides software solutions for 80% of the computers used by locksmiths nationwide.

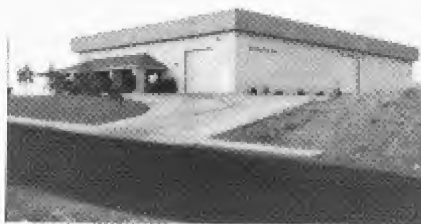
HPC and Triton College co-sponsor accredited courses in basic and advanced locksmithing. The HPC Learning Center facilities contain state-of-the-art key machines, audio-visual equipment, and a model locksmith shop. Classes feature in-depth lectures with exploded view transparencies, and extensive hands-on training using some

of the finest machines and tools made. The opportunity for voluntary apprenticeship in a working locksmith shop is provided for students taking these courses.

The HPC Services Division is devoted exclusively to the HPC customer. Through a toll free 800 number, HPC Services can answer particular questions, help with repairs or needed parts, give technical advice or help solve specific problems.

Kustom Key Inc.

Kustom Key Incorporated is no stranger to over 5000 locksmiths, hotels, and resorts from coast to coast and even across the seas. Started back in



1972 by David Vedder, Kustom Key's main thrust would be to provide large bow key blanks to the lodging industry, thus eliminating the need for key tags, and in a small but quite inventive way giving the lodge a classier touch. Interestingly enough, if we stayed at a lodge today still using key tags we might be a little surprised.

At the very beginning the blanks were stamped out by another company and then milled and embossed at Kustom Key's then modest 500 square foot facility located in Los Angeles. Within a year the decision was made to enlarge the facility and to tool up for the in-house production of the key blanks from raw materials. With sales increasing, this would provide more control over production and allow the maintenance of the high quality standards the company was founded upon. When many of us think back to the economic climate of 1973, this was one giant step for any company to have made.

A couple of years passed and Kustom Key was to be innovative again, this time offering their "Neuter Bow" key blank now called the K-3 blank. This key provides a single head shape for most all the different lock systems. The key feature is, (no pun intended)

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the increased security provided by the head shape, will not tip off the lock system. Incised with "Do Not Duplicate," the K-3 blank assures the customer that no ethical locksmith will duplicate the key. Kustom Key also personalizes the key with the locksmith's name and phone number stamped on the head itself. This provides the customer with a constant reminder of who to call when the need for a locksmith arises.

In 1987, Kustom Key moved into its new 10,000 square foot facility located in Lake Havasu City, Arizona. With Dave Vedder still at the helm, his son Mike now heads up the sales department. Unlike the horror stories we sometimes hear about fathers and sons being different as night and day when it comes to business standards, Mike is a chip off the old block, maintaining the same rigid commitment to customer service that his father began with in 1972.

When questioning Mike as to what he attributes the current success of Kustom Key to, he replied "I believe it is not just the quality which has built the company, but shipping orders within 24 hours and dealing directly with the locksmiths. It is important to make

every customer feel he or she counts, no matter what size their order may be."

Their latest product is the new "Mini-Neuter" key blank. It is designed to offer the smaller locksmithing operation a price and quantity alternative while providing them the opportunity to offer their customers a high quality product. Made from quality leaded brass and available in eleven of the most popular keyways, these blanks are all incised with "Do Not Duplicate" to add an extra touch of protection to the security minded individual.

Lindustries, Inc.



Several years ago a Boston hardware company approached Willard Lind with the request that he invent a universal doorknob lever adaptor. Initially it seemed that a device like this should be simple enough and it was questionable why someone in the hardware industry had not already made a handle that could be simply fastened by clamp action or a lock screw to a doorknob.

As the requirements for the device were outlined, it became obvious why a simple and cost effective solution was, indeed quite difficult. They wanted one model to fit all knobs regardless of size or shape with no lefts or rights. It should be easy to install with no tools, and the unit must be installed without taking the knob off. It must also show no visible means of fastening, thus making it vandal-proof.

The earliest aluminum prototype utilized a threaded split-ring joined around the knob neck which would be hidden when threaded into the lever module and tightened on the knob. At this point four problems became apparent:

- 1) To make threaded aluminum units in small quantities was cost prohibitive.
- 2) The aluminum adaptor was too heavy for knob mechanisms to take the

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Lindustries, Inc.

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continuous hanging weight of a metal lever.

3) A material was required that would not mar or scratch the knob's surface in case the owner wanted to go back to using the original knob.

4) The Hose Stream Test demanded the device should have a lever that either melted or fell off the knob somewhere between 300°F to 500°F.

Thermoplastics was part of the answer. The other part was to find a strong but high-grip material for gaskets. Unfortunately, most non-scratch material that is durable is also slippery. After researching and testing hundreds of combinations, the ultimate choice was polypropylene and synthetic rubber for gaskets. Serious market prototyping began after receiving positive user response. A patent was applied for and official registration of the trade name "Leveron" for the lever handle adaptor was done.

During the patent search, an amazing amount of patents were discovered for lever adaptors, the earliest being #286,614 by Hughes in 1883. This goes to show that for at least a century people have had trouble turning the common doorknob. Leveron's patent #4,397,489 was granted in 1983.

Although Leveron had been thoroughly tested and thousands were in use, heavy-handed students testing their strength indicated Leveron could be more resilient to protect the retrofitted knobs spindle and related parts from excessive stress. Accordingly, Leveron's polymer was converted to a special high density polyethylene that allowed it to flex even at low temperatures of -100°F in arctic, frigid conditions.

This flexibility, most apparent in Leveron's handle, is not like rubber. It bends under heavy loads, then returns to its original position gradually; a deterrent for anyone who believes their strength has permanently deformed the lever handle. A new gasket now available has an unusually secure grip, but also flexes to further minimize these impact forces.

A final note. It seems some Americans don't know how to use a lever; neither the Leveron, nor the lever hardware. Many calls come in to Lindustries; even one from the manager of a boiler factory in Mainland, China, but the following episode really heads the list.

A few weeks after Leverons had been installed on knobsets in a brand new

building, the owner called and complained of some malfunctioning. It was assumed that they probably didn't read the instructions, or didn't use the gaskets properly. Arriving at the problem site, Willard Lind could not believe what had happened. One office suite occupied by a high tech engineering firm had several knobsets fitted with Leverons that were literally yanked free from the door, including a heavy steel fire door. The fire door, in fact, looked as if a wrecking ball had hit the knobset from the exterior leaving only a jagged hole.

When a young lady of stupendous proportions appeared, he asked her what had happened to the fire door.

"Oh, I did that," she said, "a lot of us girls here are Nautilus freaks and we couldn't figure how these (Leverons) are supposed to be used. We just pull them!" Her boss, the firm's president subsequently joined the conversation and said he didn't know how to use levers either.

Lind asked, "First you had door-knobs, could you use them?"

"Anyone knows that!" the president groaned, "but we couldn't figure out how to use them once the Leverons were installed. Perhaps," he suggested, "you should make little signs to show people that they should press down to open the door, instead of tugging!"

Glancing toward the damaged fire door Lind replied, "Yes Sir, I'll work on it."

And work on it they do. Lindustries is continually testing their materials, asking the users questions, and involving themselves in every phase from production to end use.

Locknetics Security Engineering

At one time, the phrase "under lock and key" meant as safe and secure as possible. Today, that phrase might more accurately read "under electronic locking devices."

In that last two decades, there has been a concentrated effort toward providing buildings with higher levels of "life safety and security." Life Safety refers to ensuring the safest environment for people who may be in a building during a life threatening situation, such as a fire. Security refers to the process of preventing unauthorized people from entering a given building (or areas of that building) at specific times. In both cases, it's clear that the

traditional, mechanical lock is inadequate. Thus, the electronic access control industry emerged.

Chances are, you see elements of an access control system every day: card readers, keypads, and closed circuit televisions, for example, help provide the security. One element which you probably won't see, but which is an integral part of the life safety issue, is a building's electronic door locking equipment. (Example: A system that senses smoke or fire and automatically closes off the burning area.) The manufacture of such door controls was spearheaded by Locknetics Security Products.

Locknetics was founded in Bristol, CT in 1970 to manufacture electronic and electromagnetic locking devices. Five years later, Security Engineering formed and manufactured a similar product line. Soon, each company became a major force in the field of electronic access control.

In 1988 Locknetic's parent company purchased Security Engineering and combined the two firms into Locknetics Security Engineering or LSE. LSE is located in Forestville, CT.

LSE's product line consists of six categories: electromagnetic locks; electromechanical locks; controllers and power supplies; specialty equipment (such as magnetic latch releases, mounting hardware and automatic time clocks); stations controls; and consoles. In a world that spent \$8 billion on access controls last year, and where security concerns spiral upward daily, LSE products provide reliable access and egress (exit) in any situation, resulting in a safe and secure environment.

The locks are used in such diverse installations as office buildings, apartment complexes, schools, governmental buildings (including the White House and Pentagon), airports — anywhere a high level of safety and security is required.

Today, just one year after the merger, LSE is moving at a rapid pace. In-house capabilities in all areas of the company's operations have grown, increasing operating efficiency and product quality. Automated manufacturing, through computer numerically controlled (CNC) machining, produces a superior product. Substantial growth has recently required the company to add a second shift. And a team of expert engineers continually explores new areas of development.

M.A.G. Engineering & Manufacturing, Inc.

Back in 1971, Howard Allenbaugh, the founder and president of Huntington Beach, California-based M.A.G. Engineering & Manufacturing, met a maintenance man from a local college. This person mentioned that he had a costly problem replacing old locks with new modern locks because existing doors would have to be replaced.

"I think I can solve your problem," Allenbaugh told him. Later, "I spent the next few days at the drawing board and came up with a product that would prevent costly door replacement." The product featured a U-shaped channel encasing the door lock, and latch into one solid unit. In addition, it more than doubled door strength.

M.A.G. had been manufacturing accessories for Volkswagens (such as electric locks and airscoops) since 1968. Allenbaugh recognized the exciting new potential of the U-shaped channel which he named Install-A-Lock. This product required Allenbaugh's full-time commitment to personally manufacture and sell the Install-A-Lock to local

locksmiths.

Through contacts made with locksmiths, Allenbaugh learned of locksmith distributors, locksmith associations, and trade shows. "My first trade show was in Texas and I didn't know a soul in the industry," Allenbaugh said. "I didn't know what to expect and simply showed my product to locksmiths. Install-A-Lock generated a lot of enthusiasm, and, during the show, I knew that I had found a niche." Allenbaugh developed contacts at the show which he nurtured into a traditional network of distributors.

"There was nothing like it on the market at the time. To create a demand, I made a mailing to every school district and college in the country," he said. "Instead of using mailing labels which might seem impersonal, the name and address on each envelope was typed, and a postage stamp was used instead of a meter. The response was incredible and resulted in a substantial increase in distributor orders.

Over the years, Allenbaugh has developed a line of security reinforcement hardware. An inventor since he was a young boy, Allenbaugh created the

tooling, manufacturing, and assembly techniques used to manufacture each product. He also selected the materials and equipment.

Allenbaugh has placed a premium on quality and service since the firm's inception in 1968. "We make everything at our Huntington Beach facility and carry a large inventory to ship our finished goods within 24 to 48 hours. Distributors often complain that manufacturers take four to six weeks to deliver, so we're quite proud of our long, proven track record of prompt and complete shipments."

Allenbaugh knows that customer service is crucial to continual success at M.A.G. "No one is treated indifferently," he said. "We respond to all inquiries within one working day."

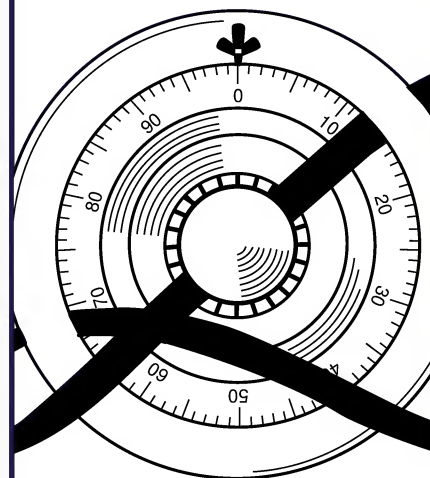
M.A.G. has also taken an active interest in community affairs, working with law enforcement officials to educate the public on how to prevent door kick-ins and other home security tips. "We designed a Crime Prevention Kit that is being sent free nationwide to police department crime prevention officers," Allenbaugh said. "The officers use the kits as part of neighborhood



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M.A.G. Engineering

Continued from page 51

watch programs and other civic functions."

The Crime Prevention Kit includes M.A.G. security reinforcement product samples, a four-minute audio cassette tape outlining how the products can prevent kick-ins, and illustrations demonstrating how easy it is for someone to kick in an unreinforced door.

"I'm grateful to the locksmith industry, which has established M.A.G. security reinforcement products that have benefited millions of homes and businesses," Allenbaugh said.

M.A.G. Engineering and Manufacturing is pleased to announce that since July 1989 their product line is now UL listed 76S1 Door Lock Accessory. Look for the listing mark on the product.

Markar Products, Inc.

Markar Products, Inc. was formed 20 years ago when Mr. Thomas Bennett invented the "reinforcer" a surface mounted reinforcing pivot. This simple product answered the need for an easy-to-install, surface mounted pivot that would take the load off the top hinge, extend the life of existing doors, and protect new doors from failing. Through the years various models were added to the "reinforcer" line to meet every door condition.

In 1983, the company took its next step with the introduction of aluminum continuous hinges. The punishing, irregular forces that used to somehow always end up overworking conventional type hinges are now harmlessly spread out over the height of the door. Light, yet strong enough to handle a busy, 600 pound door, series 100 aluminum continuous hinges became ideal for retrofit projects. With this in mind, Mr. Bennett began to expand the line with steel and stainless steel continuous hinges that were fire-rated approved.

Upon Mr. Bennett's untimely death in 1985, ownership of the company passed to his wife, Ladonna, who took on several key people to carry on the business that her husband so loved. During this time, the company completed the work on the steel and stainless steel continuous hinge line and aggressively began marketing and establishing its products throughout the U.S. and Canada.

The major thrust remained provid-

ing quality hinging products. To meet the increasing demands successfully, Markar expanded their operation to its present facility in Akron, NY. By adding state-of-the art equipment and machinery and eliminating outside processes Markar has grown to become a leader in door hinge technology.

With 20 manufacturers representatives throughout the country, Canada and England, their goal is to satisfy customers and stand ready to assist you in any way they can.

Master Lock Company

Probably the most memorable public image of Master Lock is the familiar rifle-shot "Tough Under Fire" television demonstration that has virtually become Master's corporate signature. Number one in padlocks and synonymous with quality products made in the USA, Master Lock enjoys a remarkable 55 percent of domestic lock sales. Scoring a 97 percent brand awareness among lock buyers, Master leads in a market sought after by more than 140 competing domestic and imported brands.

Today Master supplies more than 100 padlock security products and is the world's largest padlock manufacturer. Master's comprehensive line of keyed, rekeyable and combination padlocks is found in industry, business, schools, institutions and homes. Master locks secure military facilities, cargo on naval ships, vital equipment at nuclear power plants, and guard shipments of gold bullion in Africa, sugar plantations in the Dominican Republic, and oil wells in the Middle East and South America.

Building on its strength in the local market, Master recently extended its line of premiere products into another related security area. In 1986 Master acquired Dexter Lock Company, based in Auburn, Alabama. Dexter by Master Lock offers a complete selection of quality locksets, door hardware and upscale entrance handles. Notable among Dexter innovations is the tubular lockset that now has grown to be the standard of the industry. Dexter by Master Lock emphasizes premium quality. To guarantee customers lifetime durability extreme care goes into every element, right down to exclusive use of all steel and brass components that assure dependability.

To provide professional support that excels in every way, Master devotes

much of its efforts to its Total Customer Service (TCS) program. The goal of TCS is to quickly solve all customer problems and give up-to-the minute order information and assistance. Master's turn-around time for all work other than "special orders" is one week, start to finish. And this efficiency is not gained at the expense of quality. Every phase of production is performed and monitored within Master's own facilities. Products are packaged in-house. To assure that only high quality reaches customers, every lock is hand tested before leaving the Master Lock plant.

Master Lock was the brainchild of founder Harry E. Soref, whose ingenious insight led him to abandon the traditional concept of hollow-shell padlock construction universally employed back in the 1920's. Soref's design introduced locks made of laminated layers of steel delivering unprecedented strength. His innovative laminated padlocks quickly captured the market, catapulting Master Lock to success.

Soref's laminated padlock was only a beginning. His initial patent was soon joined by a whole family of keyed and combination locks that ultimately won Master its position as the world's leading supplier of security systems to consumers, educational institutions, industrial plants, hospitals, clubs and commercial enterprises.

Master employs more than 1,700 people at its modern headquarters in Milwaukee, Wisconsin, and Dexter facility in Auburn, Alabama. Employees work in modern hardware manufacturing plants. The company's continuing tradition of providing a safe, hospitable work environment is evident throughout the entire Master facility.

New products and services continue to evolve and serve the needs of the locksmith. Notable among recent introductions is Master's Authorized Security Specialist program. Provided without charge to professional locksmiths, it offers participants merchandising aids and support designed to help them effectively build sales and profits in the face of today's competitive security markets.

In addition, to help locksmiths better serve specific needs of customers, many Master products can be ordered with a number of keying features—master-keyed, rekeyable cylinders, reserved keyway, and a variety of other options.

Medeco Security Locks

On October 8, 1968, four men founded Medeco Security Locks in a small building on Apperson Drive in Salem, Virginia. While initially focusing on a limited number of products and markets, Medeco has steadily grown to become a well-known manufacturer of high security locks in a variety of product lines and markets.

Original production focused on replacement cylinders for mortise and rim door locks. Gradually various replacement cylinders for other types of locksets were added to the product line. While the market thrust had previously been directed to the metropolitan New York market area, sales soon expanded to other areas of the country, and representatives were added to establish locksmith distributors.

By 1971, customer demand prompted Medeco to devise locks that could be used in products requiring security such as burglar alarms, vending machines, and coin laundry equipment. Medeco was able to meet the industries' demand for a $\frac{3}{4}$ " diameter lock by developing a lock that required no driver pins. This product was the basis for Medeco's booming business with



manufacturers and users of equipment and machines.

Medeco pioneered the way for early key control, designing programs with factory issued control cards and positive identification required. Locksmiths played an integral part in designing and maintaining Medeco Key Control Programs.

Concerns over expiring patents of the original dual-locking design inspired Medeco to develop its Biaxial lock cylinder in 1986. The Biaxial multiplied key combinations to over one billion possibilities — over fifty times more than the original Medeco design. Seven levels of key control were devel-

oped to complement the Biaxial design.

In the beginning of its existence, Medeco had only seven employees working out of a small rented warehouse in Salem, Virginia. Now Medeco occupies a 31-acre site, 10 acres of which is office and manufacturing space. Medeco currently has over 500 employees ranging from factory workers to office personnel to sales representatives in the field.

Beginning with a single market of New York City, Medeco has expanded to national and international markets. Medeco's exports continue to grow year after year with established sales representatives worldwide. With some products geared toward international needs, tremendous growth in exports is anticipated over the next several years.

Demand for Medeco's high security products has spread around the world. Commercial, financial, industrial, and government facilities use Medeco locking devices wherever security is a major concern. In a society where security is a growing concern, Medeco will continue to develop products to keep pace with the demand.

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Rofu International Corporation

Rofu International Corporation can trace its roots to the Switzerland of the early 1920's. Around 1922 Mr. Peter Rothfuchs Sr. established a technical company near Zurich to capitalize on the growth in the application of electricity to specialty processes. By identifying specific areas of need and developing the products to meet those needs, the company, Rothfuchs, Inc. was able to establish itself in a number of market niches.

One of Mr. Rothfuchs' descendants noticed during a visit to the U.S.A. in the late 1970's that the American market for electric door strikes could be served well by adapting European strikes to the locksets made by American manufacturers. While doing his market research it became obvious to the younger Peter Rothfuchs that a simpler product name would be mandatory if he wanted to avoid spending the better part of each telephone conversation spelling his name. Thus the product name "Rofu" was born.

A number of "old-timers" in the locksmith and distribution fields pro-

vided much appreciated input while the finishing touches were made to the initial product line. Acceptance of this line was slow at first, however, strict adherence to the basic marketing plan, stringent quality control and reasonable pricing resulted in an ever increasing distributor base and sale volume.

Soon after the electric strikes were introduced, the NFPA revised its guidelines and allowed delayed egress on emergency exit doors. Electromagnetic locks could be added to the product line with the assurance that the market would be there.

The market has responded with a vigor that exceeded the most optimistic sales projections. In May of 1989 an entirely new manufacturing operation with three times the capacity of the old facilities was put on line to help meet the demand for electromagnetic locks. That demand does not exist in the U.S.A. only; Rofu is a true international corporation and its products are installed all over the world.

Over the years, Rofu has expanded its line to include not just a full range of strikes (including high security models) and magnets both with a variety of optional features, but also a large

number of accessories to help make the installer's job easier. Key and exit switches, time delays, rectifiers, transformers, switches, monitoring, plates, brackets and housings are all available from or through the Rofu distributors.

Rofu International Corporation offers European solidity and American Entrepreneurship, American inventiveness and Swiss precision engineering, but above all service.

Sandstrom Products Company

Sandstrom Products Company is a proven long-term performer in dry film lubricant technology. They sold their first lubricants in the mid '60's for both industrial and military use. Their line includes moly, PTFE and graphite types. Today dry film lubricants are the background of the company.

Sandstrom has built its reputation for dependability and service by working closely with customers to solve their unique coating problems. These customers include locksmiths and lock manufacturers who are finding that the



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Sandstrom

Continued from page 54

Poxylube® Lock Lubricant provides clean lubrication and without attracting moisture that promotes corrosion and freezes up locks in the winter.

Robert Sandstrom began formulating coatings in his garage in Illinois over 50 years ago. He opened his paint manufacturing plant, Sandstrom Products Company, in Fort Byron in 1946. His expertise in chemistry resulted in over 1,000 coatings being developed. His son, James, is now president and

has successfully marketed these specialty products to companies around the world.

You'll find Sandstrom coatings to be the answer in many other applications, including floor maintenance and repair, waterproofing, masonry, for tanks and tank cars (linings and exterior), and for tennis courts/driveways.

The Poxylube® Lock Lubricant is the latest addition to this line. The dry lubes provide lubrication, reduce friction, improve wear, give corrosion and fluid resistance, and the dry film finish does not attract dirt or debris from the

surrounding environment.

Sandstrom products continues the tradition started with Mr. Sandstrom of "problem solving" for its customers. Give them your coating problems. Their staff of five chemists will work with you to get the answer.

Sargent & Greenleaf, Inc.

Throughout its long history, Sargent & Greenleaf, Inc. has operated always looking forward to new concepts and techniques. The S & G story really begins with one talented man, James Sargent. After working in various fields, Sargent became associated with the Yale & Greenleaf Lock Co. in 1857. As a salesman for the firm, he had the chance to closely study a wide variety of locks and soon demonstrated a remarkable ability to pick any lock submitted to him. With this knowledge, he set about designing locks that even he could not defeat. This effort resulted in the world's first key changeable combination lock, which he produced under the name "James Sargent, Manufacturer."

After designing the first "magnetic" combination lock in 1865, Sargent joined with Col. Halbert Greenleaf in a partnership that would spur the company on its way.

In 1873, James Sargent had finally perfected the world's first time lock. Bankers were wary of the device at first, however, it soon became a standard security device in the industry. S & G greatly expanded its lines of combination and time locks as new technologies emerged. In 1921, the company began marketing an improved changeable, sealed key safe deposit lock.

Over the years, S & G continued to devote its energies on the development of high security equipment. Today, Sargent & Greenleaf is still hard at work on the latest security technologies. New product development is at an all-time high, with more ideas on the drawing board than ever before. Significant emphasis remains, however, on the traditional product line which is continually upgraded with the advent of new manufacturing techniques.

S & G is currently entering the age of electronics, with the introduction of an electronic time lock, hotel safe lock, and time delay lock. The electronic locking devices enhance an already extensive product line, and offer the security industry a wider variety of



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locking mechanisms from which to choose. The recently expanded customer service and sales departments monitor the requirements of an ever-changing industry in an effort to provide excellent quality and service.

Securitron

Located in sunny Southern California, Securitron is a leader in electromagnetic locking technology. Since the advent of the E-profile magnetic lock back in 1975, the Magnalock has been copied and sought after in the industry.

Securitron has an excellent reputation throughout the nation for paying attention to the needs of its customers. Securitron's technical support team and customer service personnel are available through their toll free number 1-800-MAG-LOCK. These friendly experts can help walk a customer through even the most difficult applications.

Securitron's expertise is not limited to electromagnetic locks. They also manufacture an expansive line of sophisticated access control products; quality products like the TSB-1 Touch Sense Bar. It is an exit bar that releases any electric lock simply by sensing the human touch. The TSB-1 is all electronic with no moving parts. This product is a breakthrough in free egress and many other exit applications.

In digital access control, Securitron offers the Model DK-20+. This high security, keypad programmable, CPU controlled digital entry system operates on 12 or 24 VDC or AC and accepts any fail safe or fail secure lock. Its slimline design is ideal for installation on narrow style door frames and is weather and vandal-resistant.

Securitron's model DK-30 is a digital keypad based system for single door use that integrates multiple user capability with a built-in printer for security, accountability and affordability. Securitron also offers a host of access support products such as the BPS Series power supply's, PB Series Exit buttons, MK Series electric key-switches, security printers, custom control panels and more.

Securitron's management personnel include:

Bob Cook, president; Vince Frallicciardi, vice president sales and marketing; Scott Baker, national sales manager; Norma Honick, sales and customer service manager; Juan Cabezas, vice

president finance; Fred R. Barton, advertising and public relations; and Robert Hunt, vice president engineering.

Security Door Controls

The remote controlled data-productive electric locking systems which are employed in today's commercial and industrial buildings often require hundreds of locks on a single contract. Far more are found on the innumerable systems for one or a dozen entrances (or other types of access control requirements) which now provide controlled safety and security for their owners.

Among the few preeminent companies specializing in electric locks and locking systems, Security Door Controls presents a full range of high quality locks and related hardware, consoles and systems.

Every such system, large or small, ultimately depends on the totally reliable operation of "smart locks" with all the many capabilities which allow access control systems to function. Without such locks, "access control" as we now expect it would not exist.

For SDC this means, among other things, that all solenoid design and manufacture must be in-house, with all SDC solenoids meeting MIL specs (military specifications). With this degree of quality coupled to the variety of locks and locking devices available from SDC, buyers from whatever origin (military, industrial, commercial or the locksmith shop), beginning work with electric locks, are sure of the locks and the assistance and advice they receive.

Continuity of experience also has its advantages. SDC benefits from continued ownership and management by the second and third generations directly involved in entrance hardware design, manufacture and sales. Architects and builders specifying access control systems to meet varied operational demands find the engineers and specialists of Security Door Controls speaking their language, and entirely familiar with devices, safety codes and installation requirements.

Among the locks available from SDC are the right-angle throw "Space-Saver" bolt locks, which were designed to install, fully concealed, in standard 1 3/4" hollow metal door frames or in solid construction. They are now available for use in frames as narrow as 1 1/4". Space Saver locks can be ordered in either fail-safe or fail-secure modes, are

patented by SDC and, like most SDC products, are UL Listed.

The PanicLok is a Space Saver lock which installs horizontally in a door frame header, fully concealed, and activates a panic exit device release.

In the magnetic lock field SDC's basic EMLock provides 1500 pounds of holding force, can be installed in any type of door, is positively fail-safe, and offers a full range of features.

The Model 1511-101 EMLock offers a 15 second delayed egress control system, which delays unauthorized egress enough to alert security personnel. A 30 second delay is also available, and all desired options. It complies with NFPA-101 Special Locking Arrangements, is patented by SDC and is UL Listed.

SDC's unique HiTower fail-safe or dual fail-safe locking system considered by many to be the standard safety/security lock for stair towers. It allows remote locking and unlocking of the bolt without unlatching the mortise lock, which keeps the door latched until opened by a key, or by the lever or knob. It meets the Uniform, BOCA and Southern building codes, and is available in five different functions. This lock is also UL Listed, and is finding many uses in low-rise construction, in addition to stairtowers.

In addition to these major locks and locking systems, SDC presents an economical stand-alone digital entry access control, a line of high-quality electric strikes, power supplies, consoles, and a large assortment of accessories.

Slide Lock Tool Co.

In 1984, Slide Lock Tool Co. became one of the few lockout tool manufacturers to advertise in *The National Locksmith* magazine. They established themselves in the complex lockout industry when they introduced the original Slide Lock Tool which mastered the "then new" (unguarded) horizontal type lock systems.

In 1987, Doug Selby, the company's product designer, recognized the sheer volume of lockout tools the locksmiths were having to carry to the job site. Doug's intention was to reduce the cumbersome numbers of tools required to handle the wide range of lock systems. He spent two years researching and developing his "one tool-one manual" concept.

Continued on page 114

Update On Ford's Probe

"Some changes have taken place on this vehicle even though this is not the first year of production. Ford has decreased the number of wafers in the door locks."

by Robert Sieveking

Though this is not the first year for the Ford Probe, there are some interesting developments in the locking system that deserve your attention. (See photograph 1.)

Ford has decreased the number of wafers in the door locks of this vehicle. Much like the Festiva, missing wafers in the door locks have caused considerable confusion among those locksmiths that normally disassemble the locks to make a first key. The exterior locks of the 1989 Probe are only pinned in the first, second, sixth and seventh positions.

Illustration two shows the wafer locations in the various locks of the Ford Probe. You will note that the door and trunk locks have only four wafers. You might think that these locks would be easy to pick, with only four wafers in the plug, but you will find that the design of the lock cylinder has been changed to increase the pick resistance. Playing hide and seek with the wafers could become a problem for the uninformed locksmith, but for now the code can be found on the passenger door cylinder.

To open the Probe. The Ford Probe is not a difficult body style to open. Wedge the glass about 6" from the rear of the door glass. The rubber is fairly tight on these autos, so use caution in wedging the glass. Using the end of a "Z" tool (see photograph 3), insert the tool with the tip toward the rear of the door. There is not a baffle or channel on the bottom of the glass to prevent the tool from entering the door, so it is fairly easy to insert the tool and follow the lock cylinder linkage down to the point where it attached to the latch mechanism (see photograph 4). The lock pawls on the Mazda locks are free, which means that the linkage can be moved to unlock the door fairly easily. Push down on the linkage to unlock. Go for the bottom of the lock rod, as the cylinder and lock pawl are shielded



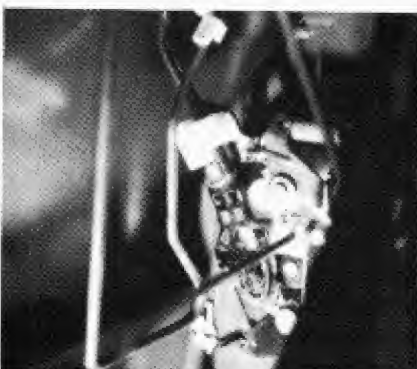
1. The 1989 Ford Probe.

Ford Probe wafer locations								
	1	2	3	4	5	6	7	8
ignition	x	x	x	x	x	x		
door	x	x				x	x	
trunk	x	x				x	x	
glove box				x	x	x	x	

Illustration 2



3. Car opening tool shown with proper insertion angle.



4. Car opening tool connecting with the latch mechanism.

by a large lock clip that is reminiscent of the GM clips that appeared about 1980.

Always feel with the tip of the tool. Use it to move the linkage; not jerk it around. Finesse, not force, is the mark of a true craftsman. The plastic lock rod clips can be easily dislodged by careless or reckless use of a Slim Jim or other tool, making it necessary to disassemble the door to reconnect the linkage. It would be possible to attack the vertical linkage inside the door, but the glass to body seal above or to the rear of the side glass is too tight to risk damaging the paint or breaking the glass to make it a reasonable alternate method.

Making a first key by code. The code for this vehicle will be found on the passenger door lock cylinder. The code is unprefix, though the metal ring tag that accompanies the original keys shows the Ford "FA" prefix. One key fits all the locks. There does not seem to be a master/valet system used on this car. The correct series is the Mazda 6500 to 7733 codes. *The National Locksmith Code Book, NFCB* Volume 1, page 433 lists the complete series.

Though the code series suggests that the proper key is the X131, the Probe ignition requires the longer X178 (Ilco MZ16) key to fully enter the ignition lock. The X131 will operate all other locks on the car, but *cannot* be modified to operate the ignition. The head could be cut back, but the milling will not be long enough to allow the key to fully enter the lock plug. The extra depth of the lock increases the lock's resistance to reading and picking.

The chart in illustration five gives most of the information necessary to make a key for the Ford/Mazda family. Use 1200CM code card number XF65 or cut the key to the dimensions given in the chart. The key is gauged from the tip. Use a shim below the key when cutting to code to prevent the key from

MAKE Ford Probe
BODY Probe - Tracer - Festiva
YEAR 1989

CODES (FA) 6500 - 7733
CODE LOCATION stamped on
passenger door lock body

KEY:

TAYLOR	X178
SILCA	MZ12BP
CURTIS/ESP	MZ15
ILCO	MZ16

1200CM CODE CARD XF65

ROOT DEPTHS	CUT SPACING
1 - .315	A - .122
2 - .295	B - .0985
3 - .276	
4 - .256	DIAL SPACE

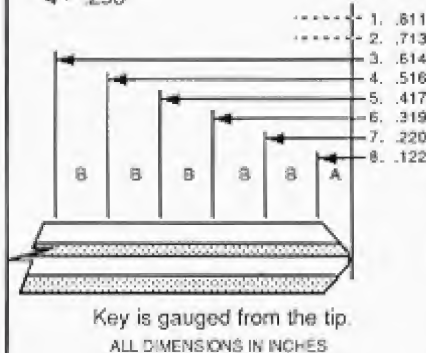


Illustration 5

tipping in the key vise. The cuts are listed from bow to tip in the code series. Notice that there are eight spaces shown for these keys. The tip or eighth cut seems to have no immediate purpose in these locks, and is not listed in the codes, though it is found to be pre-cut to a 4 depth on the MZ16 (Ilco) blanks.

Door lock removal for a first key by disassembly. The door panel must be removed and the lock linkage disconnected before the lock cylinder can be removed from the door. The inner trim panel is assembled to the door by four screws and a number of push-in type plastic fasteners. Use caution in disconnecting the latch linkage. Observe carefully the path the rod takes in photograph six. We had a little trouble getting the inside pull handle connected and the pull rod routed so that it did not bind behind the armrest. A plastic guide on the door would have been nice here.

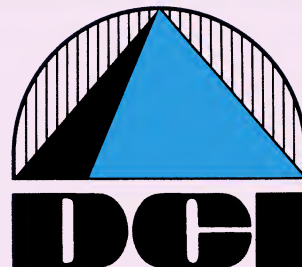
Because the large lock clip slides down from above the lock, we found it necessary to take off the pull handle before the lock clip could be removed. Photograph six also shows the two rubber hole plugs in the door edge that conceal the attachment bolts for the



6. The path the rod takes is pointed out. pull handle. You'll need a 10mm socket or nut driver here. Disconnect the upper latch link shown in photograph



7. Open latch link shown.



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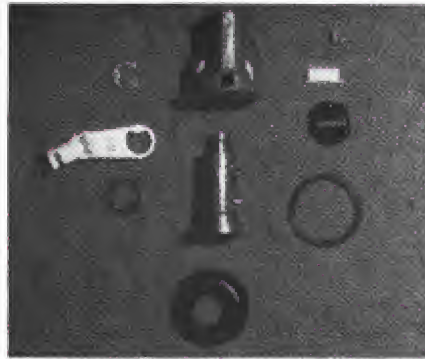
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seven to remove the pull handle. The lock linkage can then be disconnected and the door cylinder removed. Better mechanical planning by the manufacturer could have made this job a lot easier.

We found the code on the top of the lock cylinder, shielded by the lock clip. I was trying to find a way to use a 90 degree borescope through one of those plugged holes in the edge of the door, hoping to read the code without removing the door panel, but couldn't get the job done. As you can also see in photograph seven, there isn't much room above the lock cylinder.

Disassembling the cylinder, be careful to catch the ball detent at the front of the lock plug. Remove the cap and shutter assembly first. With the face of the lock cylinder cleared, remove the lock pawl clip and lock pawl without allowing the plug to slide out. Slide the plug out carefully, as you catch the "tiny" ball bearing detent and spring. This detent centers the lock plug at the "pull" position, allowing the key to enter and be removed from the plug smoothly. Notice in photograph eight there are only four wafers in this plug.

No, I didn't lose the others. The manufacturer has saved .02¢ here, by



8. Disassembled plug. Notice only four wafers.

using only four of the seven wafers in the exterior locks. I guess .02¢ becomes a big deal when the car only sells for \$18,000. That is of course unless you want a radio and cigarette lighter, which makes the price slightly higher. (It's enough to make you want to quit smoking.)

The black cylinder cap you see pictured with the lock in photograph eight is a P-30-204 (Auto Security Products) cap for the Toyota. It will work if the lock case is reduced in diameter slightly with a hand file. I had no problem with this, but ASP has since released the P-20-209 black cap for the Ford Probe door locks. The new cap fits the lock case without

modification. Most aftermarket black caps that I have seen are painted, whereas the original caps are oxidized. The paint looks better but the chemical oxide coating is less expensive and will stand up better. If you are recombining the lock cylinder, use standard Mazda wafers (ASP kit A-20-101). Be careful and read the instructions, because this kit contains wafers for more than one series of Mazda lock.

You will find four of the seven necessary cuts in the door. Removing the glove box lock will net you two of the missing cuts. The number three wafer is only found in the ignition cylinder. You can either progress the number three cut through its four possible depths, which would be the safest course, or you can impression to find the depth of the cut. I do not recommend impressing the ignition cylinder.

Photograph nine shows the glove box lock used in the Probe. Removing the lock is rather tedious, but not complicated. The glove box lock is sandwiched between two halves of the glove box door. By removing a number of small screws, the door can be separated and the lock removed. The plug of the glove box lock is plastic, so I



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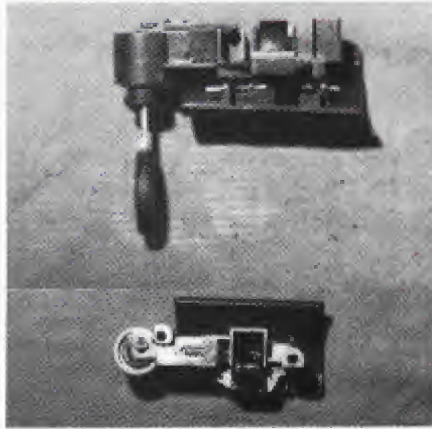
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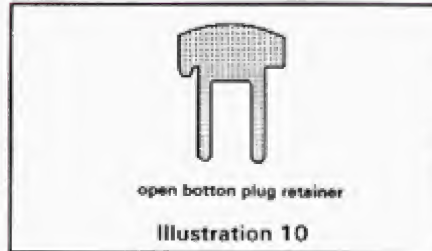


9. Two views of the glove box lock.

would be a little careful impressing. Read the wafers to make a key for wafers 4, 5, 6 and 7.

The plug can only be removed in the locked position. A small hole in the glove box liner would allow the locksmith to remove the plug in the locked position without disassembling the lock from the lid. The plug retainer shown in illustration 10 is at the rear of the plug. It is an open bottom retainer and could not be pulled in by a pick tool through the front of the lock.

Trunk or rear deck lock removal. The rear deck lock is mounted above



the license plate frame, behind the black plastic "GT" molding. The lock is not mounted inside the rear compartment. It is on the outside of the body, sandwiched between the GT molding and the body metal. (Kind of sounds like the proverbial rock and the hard place doesn't it.) Well, I hope you found that 10mm socket mentioned earlier in this article, because this is your big chance. The inside trim panels (three of them) must be removed to gain access to the nuts that fasten the rear taillight clusters to the body. I didn't count the number of nuts that had to be removed to loosen the taillights from the body, but it took about an hour to get them loose enough to remove the "GT" molding.

The lock is easy to remove once you've gone this far. It is fastened and held in place by two 10mm nuts. I had

hoped to loosen the right rear light cluster and slip the molding out far enough to free the deck lock, but found it necessary to remove both tail lamp assemblies. Enough said for the "better idea" people. (Bring your band-aids, the tin is sharp around the taillights.) The trunk lock contains wafer 1, 2, 6 and 7. If you disassemble the lock carefully the metal cap is reusable. If not, Auto Security Products makes a replacement trunk lock face cap P.N. P-20-210 that will work on the '89 autos.

Ignition removal. I guess this brings us to the ignition. I declined to remove the ignition lock on this car because the dash you see in photograph 11 is one piece. Removing the ignition will require removal of the gauge cluster assembly bezel, tilt steering wheel and some electrical switches associated with the wipers and lights. Unlike the Mazda, that only requires the removal of four phillips screws to drop the bottom of the column shell away and the removal of two headless screws, the Ford will require major disassembly. Now you know why I feel that impressing the ignition lock is risky business. This is a Mazda ignition lock. If you must remove

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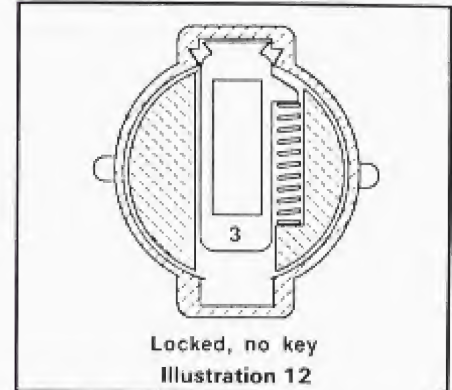
11. This illustrates the one piece dashboard.

and disassemble it, follow the same procedure as in the case of the Mazda.

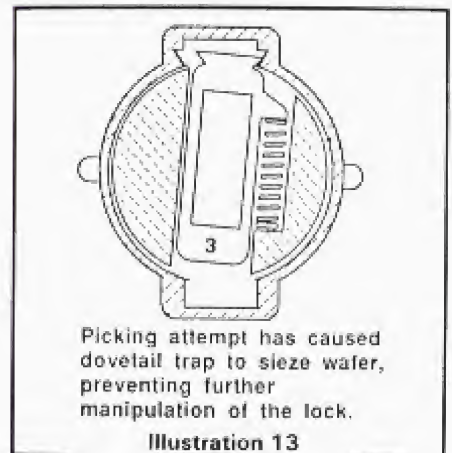
The easy way to make a first key (no code available). The easiest method I could find to make a first key for this auto was to read the glove box lock to find cuts 4, 5, 6 and 7. Then read the door lock to find cuts 1 and 2. Cut number three can be progressed in the ignition lock. Note that the ignition lock was very difficult to read because of its position and the depth of the plug to the first wafer.

About the dovetail wafers. Early in this article we spoke about the improved cylinder design that increased the pick-

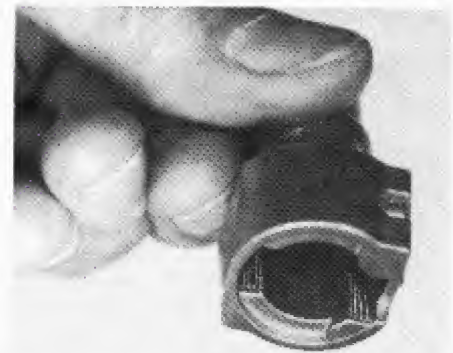
resistance of these locks. Illustration 12 shows a cutaway view of the wafer lock cylinder using the dovetail wafers. Notice the shape of the upper wafer compartment. With no key in the lock, the wafers spring up to lock the plug. If turning tension is applied to the plug, the wafers will prevent the plug from turning as you can see.



In illustration 13 the plug is turned about four degrees to the right. An attempt to pick the lock causes the dovetail trap in the upper wafer compartment to seize the wafers and prevent them from being moved to the



shear line. This same trap principle is used in the Mercedes and Volvo locks. Photograph 14 shows the serrations on the inside of the wafer compartments of the Mercedes 4-track lock. These



14. Lock case shows serrations on the inside of the wafer compartments.

Continued on page 115

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Rytan's RY 100 Duplicator

"The RY100 was delivered late on a Friday afternoon which was an excellent time. This gave us all weekend to see if this rascal is really 100% field serviceable."



Send your lock and key questions to Jack Roberts, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

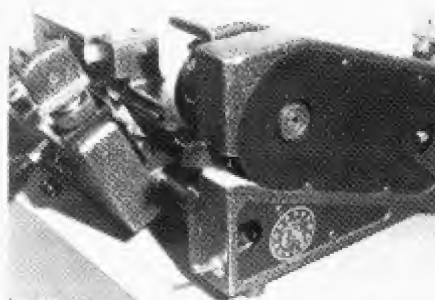
by Jack Roberts

One of the many problems faced by locksmiths is the fact that so many of our tool and equipment purchases have to be made from an ad writer's description of the product that we may be considering. Hands on use of a particular tool prior to making a purchase almost never happens and many of us are put in the position of buying a "pig in a poke." Our purpose in reviewing various products of the trade is to give an unbiased viewpoint of the item which may be helpful to anyone making deliberations for an intended purchase.

When our good editor called to inform me that a Rytan RY100 was on the way I was like a kid waiting for Christmas. I have looked at the RY100 several times at trade shows, have read all the advertising materials and now we were going to be able to put it through the paces.

Our first look at any key machine involves design and construction, size and weight, servicing and maintenance, ease of use, and comparison of the diverse claims of excellence by the manufacturer with what we can see and feel.

The RY100 was delivered late on a Friday afternoon which was an excellent time since this gave us the entire weekend to see if this rascal is really 100% field serviceable as claimed in the ads. Saturday morning after we had checked the size, 15" x 15" bench space, weight 65 lbs., and general appearance on the bench (see photograph 1), we started removing nuts, bolts, screws and everything that would come loose. Half an hour later we had parts laying



1. Jack Roberts' first look at the RY100 key machine.

all over the work bench and were able to begin checking on the ad writers.

For starters, this machine is really 100% field serviceable as the ads claim. Every part is designed to be quickly and easily replaced if replacement should ever become necessary. Rytan also offers an 800 number for technical service and advice, an ample supply of spare parts (they make everything themselves), and overnight delivery service anywhere in the country. I see no reason why a machine should be down for more than 36 to 40 hours if push did come to shove.

Reassembly of the completely dismantled machine was straightforward; this goes here and that goes there, and we had it up and running in about 40 minutes including the addition of the optional key brush, key ring adaptor and auxiliary light. (See photograph 2.)



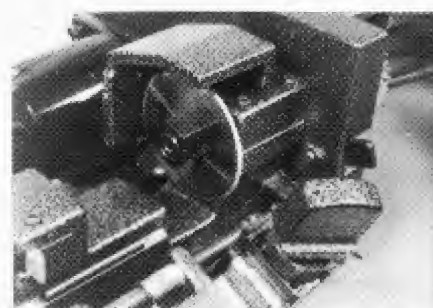
2. The machine assembled complete with key brush, key ring adaptor and auxiliary light.

Key machines, generally, consist of a few elementary components: a base, motor, cutter, stylus, guides and key clamps. That is really all that is necessary to duplicate a key, but some machines have a brush, a light or some other accessory included as standard equipment in the base price.

It would appear that the folks at Rytan have taken a different approach to building a key machine. They started with a good solid cast aluminum base, installed the things necessary for duplicating a key and then made provisions for us to add accessories to suit individual requirements. I like this. For the same base price I would rather have more quality built into the machine, and then add a light or some other enhancement if I feel that it is necessary.

So where do we start looking for differences in design and quality? The cutter (or cutting wheel) is probably the most essential part of a key machine and when we look at the cutter and cutter assembly of the RY100 it is really impressive. (See photograph 3.) A 3 1/8" cutter riding on a 3/8" drive shaft through two sealed 1 1/2" ball bearing assemblies would appear to insure long life and accurate cutting for many years. The use of ball bearings instead of bronze brushings is something I like, and the entire assembly can be moved laterally as a unit for space adjustment if this should ever become necessary.

I wonder why such a large cutter was



3. Cutter and cutter assembly of the RY100.

designed for the RY100 and after a little work with a tachometer and a feed and speed calculator found that the engineers at Rytan had done their homework. Without getting too technical, my figures show that at 950 RPM a 2 3/8" cutter will have a surface speed of about 500 feet per minute while a 3 1/8" cutter will have a surface speed of about 780 feet per minute. This difference of 280 fpm translates into faster and smoother cutting of keys with a high degree of accuracy and a minimum of machine flexing and/or vibration. Of course, the number of teeth and their configuration is a contributing factor, but that could be the subject of another article. It looks like Rytan figured it correctly.

Key vises are pretty standard on duplicating machines. We usually find a fixed jaw on the bottom and a moveable jaw on top with a screw and some type of wing nut or lever nut to tighten the jaws together. Rytan has taken a different approach to this by putting the fixed jaw at the top and the moveable jaw at the bottom. This goes against anything I have ever learned about load always going toward a fixed jaw and I was curious about the reasoning behind this design.

A close look reveals that the bottom jaws are bolted to solid steel plungers one inch in diameter and three inches long which fit into precision holes in the carriage. (See photograph 4.) The wing nut studs which control the action of these plungers are 3/8-16 compared to 5/16-24 on the other machines we have on the bench.



4. Bottom jaws bolted to a solid steel plunger.

Very comfortable wings fitted with 3/4" radial needle thrust bearings insure

solid tightening of the jaw against the length of the key blade. In theory and in practice this design makes the moveable jaw into a fixed jaw when properly tightened. This idea is certainly different, but I like it.

The top jaws can be reversed from a regular to a step jaw by simply loosening the top jaw nut, sliding the jaw out, turning it over and sliding it back into place. This is innovative and eliminates the need for a step wire or other type of spacer for those small keys like a Master M-2 and insures accurate clamping action.

Vise jaw replacement (if ever necessary) is accomplished quickly by loosening the knurled nut for the top jaw or by removing the two allen head screws which hold the bottom jaw to the plunger. Jaws can be purchased and replaced individually, it is not necessary to purchase a full set just because one jaw is damaged. I like this, too.

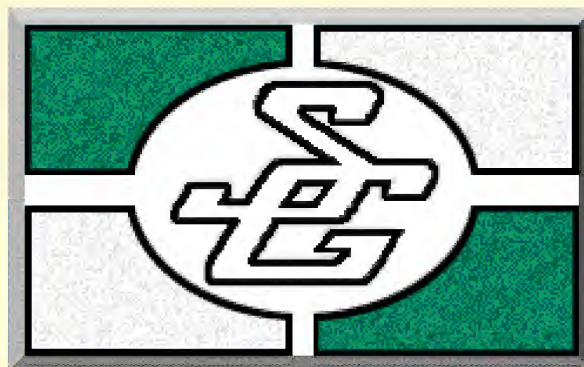
The spring-loaded vise carriage is massive when compared to some other machines. (See photograph 5.) The 6 1/2" length of the carriage puts key shoulders five inches apart which provides room for the longer head keys which we are seeing more of all the

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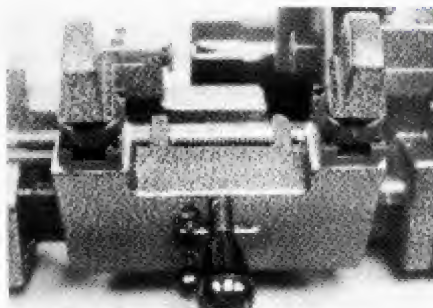
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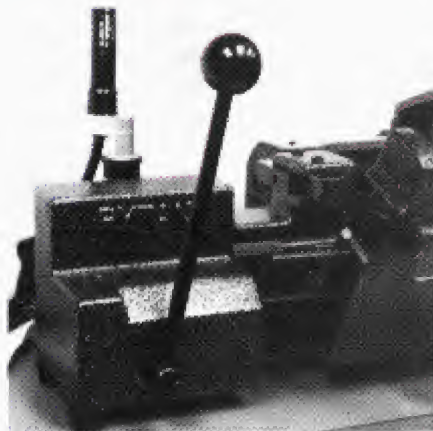


5. The spring-loaded vise carriage.

time. The vise jaws will clamp these keys evenly and securely. Lateral movement of the carriage is almost two inches with an effective cutting range of $1\frac{1}{8}$ " to $1\frac{3}{4}$ ".

The carriage is mounted on a $\frac{3}{4}$ " shaft which rides through large bronze Oilite bearings at each end of the base to insure rigidity and long life. I can see no reason why the carriage spring could ever need replacing, but, if it should, this is an off-the-shelf item at the local hardware store for less than one dollar.

Now to the very aptly named "stick shift" of the RY100. (See photograph 6.) The cantilever linkage design of this feed control is unique and provides a very smooth and positive movement of the carriage with no slack or play at any



6. The "stick shift."

point in its travel. One pass from bow to tip does the cutting while another pass from tip to bow cleans things up to produce a perfect duplicate in seconds.

There are limitations to the speed of anything and the smoothness and speed of the RY100 can cause an operator to push the machine beyond the design limits which can result in an improperly cut key. We found that after cutting five to 10 keys an operator will find a nice smooth pace for any type of key.

Deep cuts are often a problem with semi-automatic machines and our practice has always been to hold

pressure on the carriage handle while making a couple of skim passes over a blank before allowing the spring-loaded carriage to take over. We produced a Yale GA with cuts 818181 on our code machine and then duplicated this key several times with different operators. Naturally, road conditions have a bearing on the speed one should drive an automobile, and the depth of cut has a bearing on how fast one should try to cut a key.

We found that absolute speed control is obtained with the "stick shift" and had no problems duplicating our test key with shimming not being necessary. The RY100 "stick shift" design is about as smooth as any we have seen.

Shoulder gauges are rather common to key machines and all of them do a good job, as long as the keys have a shoulder to gauge from. Tip gauging, Ford and a few others including well worn keys where the shoulder is hardly distinguishable, usually requires an additional guide of some sort that must be placed in, on, or alongside the vise jaws. And, of course, the Best type key requires special gauging.

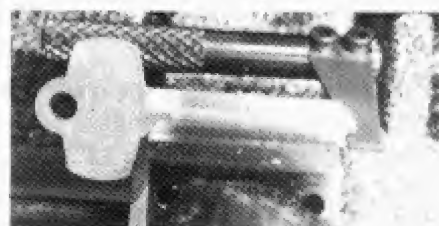
Rytan has overcome this problem



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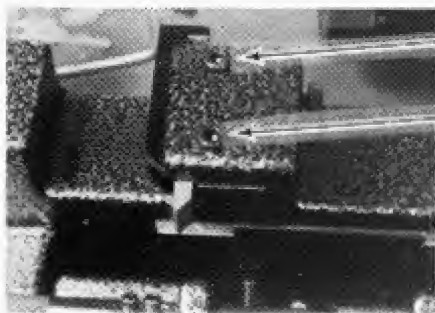
with a design that allows one gauge to cover all three types of gauging (shoulder, tip and Best type) with no additional adaptors or inserts necessary. The gauge has almost an inch and a half of travel which allows it to pass the tip of a Best type and then come under and back to the shoulder. (See photograph 7.) I really like this.



7. The specially designed gauge.

Depth adjustments of key machines has to be one of the most exasperating things that we encounter. With so many machines depth is a hit and miss proposition; we adjust the stylus, get it just right and then when we tighten the set screw the bugger moves one way or the other. Repeat, and then repeat again until finally we say, "That's close enough." Here again Rytan has made some clever advancements.

The design of the stylus holder is such that when the stylus is adjusted to the proper depth, it stays right on the money when the securing cap screws are tightened in place. (See photograph 8.) For our test evaluation we removed the stylus and then readjusted the depth ten times by three people and found that by following instructions exactly readjustment was never necessary after the cap screws were tightened. The total rigidity of the RY100 design clearly shows in this one area; set it and forget it.



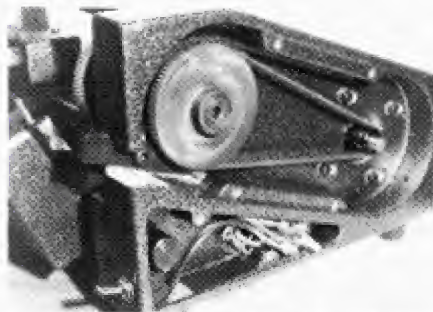
8. Two securing cap screws.

Space adjustment is something we usually don't even think about when considering a key machine. The cutter shaft mount is normally an integral part of the base with the distance from the stylus to the cutter set by design, and there is no changing it. Once more, Rytan has done some forward thinking and made provisions for space adjustment should it ever be necessary.

Loosening the cap two screws of the cutter shaft mount allows the entire head (shaft, cutter, bearings, and drive pulley) to be shifted left or right as may be required for proper space adjustment. The procedure for this adjustment is very clearly outlined in the operator's manual and here again we found that if one follows the manual it can be done right the first time.

So, we have a cutter, key vises, vise carriage, and a stylus but something has to make these things blend together to produce an operating key. That something is a 115 V electric motor, manufactured in Japan to Rytan specifications. It is designed to do one thing — keep the cutter turning at a constant speed, regardless of load, for fast and efficient key duplication.

This advanced motor design also operates well from a 500 watt generator, with no measurable contrast in speed or torque. With a 60 degree "V" drive belt and easy adjustment of belt tension the possibility of belt slippage is virtually eliminated. (See photograph 9.) The RY100 can be ordered with a 12 V DC motor which is designed to give the same performance as the 115 V model.



9. The 60 degree "V" drive belt prevents slippage.

Now let's look at some of the enhancements which can be added if one is inclined to spend a few more dollars. Rytan's Key Brush Kit (see photograph 10), can be added at any time, and for my money, is the best brush that I have seen. Rytan tells me that they get more complaints about the brush than any other part of the machine but I can't see why. I feel that the design of the nylon bristles is superb and we intend to replace all of our



10. The optional Key Brush Kit.

brushes with this one.

A dangling bunch of keys on a ring or key case is often the problem when moving the carriage and Rytan has helped in this area with the Key Ring Adaptor. Just install this option on the left jaw and it keeps that bunch of keys away from the housing for smooth and uninterrupted operation. (See photograph 11.) It is a cute and simple idea which is nice to have.



11. The optional Key Ring Adaptor.

Many key machines have a light built into the design or provide a light as an option. Rytan's light is an option, but it is a well built unit. Utilizing a 40w15 appliance bulb, the sturdy flex shaft puts the shade where you want it, and keeps it there. (Refer back to photograph 2.) The base is already drilled and tapped for the addition of the light at any time and installation is quick and easy.

A slotter kit is an option which is available and the RY100 can be converted to slotter operation and back to regular cutter in a matter of minutes. The built-in cutter shaft lock makes removal of the cutter nut a breeze and the quick change stylus easily changes from slotter to regular with no depth adjustments necessary.

Rytan recently introduced the RY501 Code Duplicator Kit which can be added to the RY100. This option gives you a precise code cutter and high speed duplicator in the bench space required for one machine. And, there is no need to change cutters, the stylus or anything. Just create the key and then duplicate it. This is a factory installed option and we didn't have the opportunity to put it to the test, but if it is anything at all like the other offerings from Rytan it is engineered and manufactured to be a precision tool.

Although the drive motor comes from Japan and the on-off switch from Mexico, the RY100 is "Made In The U.S.A." by quality-minded craftsman and from our testing and evaluation is a precision product worthy of consideration for your next key machine purchase. We like it and we're going to keep it.

For more information contact: Rytan, Inc., 2908 Oregon Ct., Bldg. 1-S, Torrance, CA 90503, (800) 44RYTAN. ■



GSA Security Container

"I was called on by a large car dealer to change the combination on his filing cabinet and tighten up the handle. It took me two days to do the job right."



by Dale Libby

Into the world of safe servicing and safecracking, some G.S.A. containers must fall. If you have ever worked on any of these beauties, then you are in for some unpleasant surprises. The key to opening and servicing these units is education and good tools. Some of the hardest openings I have ever had have been on these Government Security Containers.

I was called on by a large car dealer to change the combination on his filing cabinet and tighten up the handle. An easy job, I thought. It was fairly easy, but took two days to accomplish before it was done right. The protection on this container included 20 minutes against surreptitious entry, five minutes against forced entry, 20 hours against manipulation of the lock, and 20 hours against radiological attack.

The only statement above that I could not understand was the 20 hours against manipulation. I took the lock apart, and it was a standard 6730 type Group II lock. Twenty minutes would be more precise. The original lock might have been changed.

Photograph one shows the handle and the S&G lock. The handle is free swinging, which it should not be. When the drawer closes, the detent is pushed back which allows the handle to engage the bolt mechanism. Well, the customer had to play with the handle for about 20 minutes every night to lock the drawer, which in turn locked the other four drawers. I thought it would be easy to just tighten something down and change the combination, but this was not true. But before I go into the handle problem, let us change the



1. Front view of the Diebold GSA container with an S&G 6730 lock. The handle is broken.



2. Inside drawer shown with change key hole blocked by armor plate.



3. With the screw removed, the plate slides down to permit access to change the combination.

combination.

Photograph two shows the back of

the top drawer. There is a photocopy picture on the back of the drawer showing the proper movement of the change key when it is inserted, but the change key hole is blocked by armor plate. On the left edge of the drawer, you can see the detent that someone has modified.

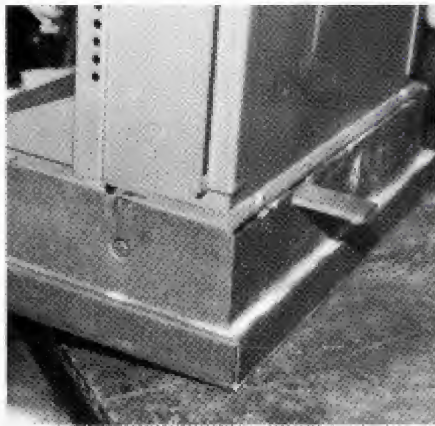
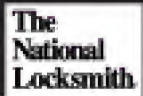
The secret to moving the plate to expose the change key hole is the large phillips screw just to the right and below the right side of the change key opening. Just remove this screw and washer, as shown in photograph three, and the large guard plate slides down to expose the back of the lock and the change key hole for the S&G lock.

Photograph four shows the bottom of the file drawer with the guard plate extension down. After the combination is changed with the key and the changing index on the dial, the plate is raised up and the phillips screw and washer is replaced to hold it in guarded position.

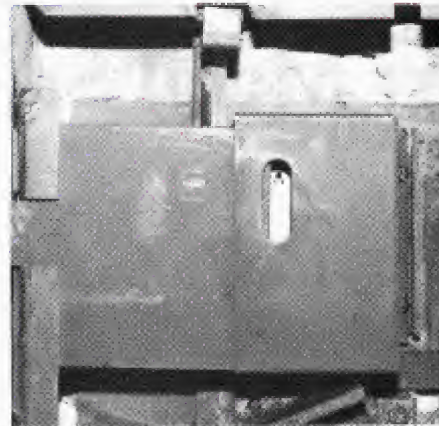
Photograph five shows this system with the back of the file drawer removed. This is the position that the plate is in when the phillips screw is in place. Photograph six shows the plate as it slides out of the way. This plate is sandwiched by the upper retainer section covering the back of the lock. There are no external relockers at this point, but there is a relocking trigger in the lock itself.

Photograph seven shows the lock, cam, and handle placement with the change key guard plates removed. The lock is mounted RH (right handed) and points toward the inside of the drawer. There is a bolt cam arrangement that locks five bolts, with the bottom bolt being used as an activator bolt to lock the other drawers. This bolt is in the center of the bottom of the top drawer, and when activated pushes the bolts in the other drawers down to lock all the drawers.

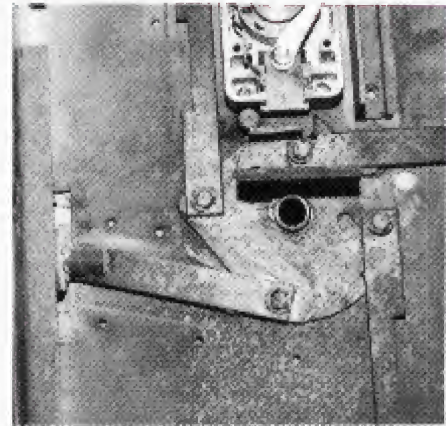
If you look closely in photograph seven, you will also see a large roll pin next to the bolt. This is to prevent fore-



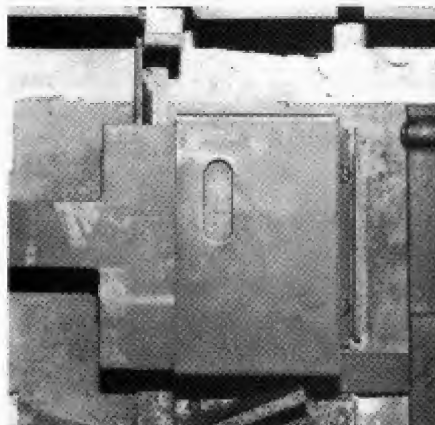
4. Bottom of the slide through the bottom of the file cabinet drawer.



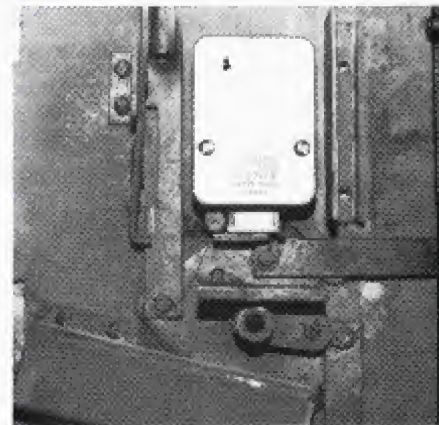
6. Cover protector plate has been moved to expose the change key hole on the S&G 6730 lock.



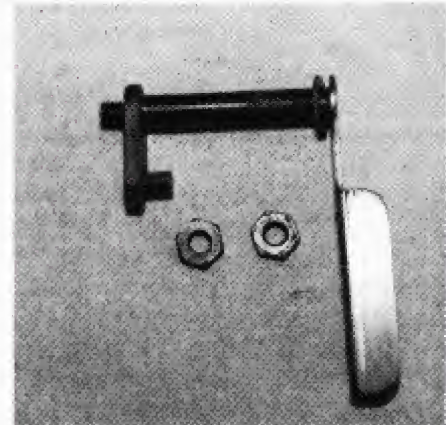
8. Lock shown in the unlocked position.



5. Back view with the change key cover in place.



7. The inside configuration of the RH mounted lock.



9. Handle and bolt cam with pin are shown with double nuts.

ing of the handle cam and opening the drawer. Opposite the pin, on the other side of the combination lock bolt, there is a small ear on the locking bolt control cam. This is what keeps the unit locked. I feel that this point is the weakest point in the lock. It would be easy to drill off with a 1/4 inch drill, assuming that you could get through the hardplate steel to drill it off. I was glad I did not have to find out about this at this time.

Directly below two upturned hardened plates, also in photograph seven, are two upraised guard plates. These plates prevent sidepunching by being drill-resistant and rather thick. A side attack on this lock would be very difficult, because you would have to go through the two plates before you could get to the bolt of the combination lock.

Below the second plate is the handle cam with pin attached by two nuts. This cam or bolt activating bar is at three o'clock in this picture. This is the

part that was loose and was spinning, and not allowing the cam to turn enough to set the bolts so the combination lock could be turned to lock the unit.

Photograph eight shows the lock in the unlocked position. The handle and bolt activating bar have been removed for repair in this picture. Note the hole at three o'clock in the cam. The unit is still in the locked position. To open would require a 1/4 turn of the cam in a counterclockwise position to withdraw the locking bolts as well as the drawer locking bolt, see here to the left of the picture.

Photograph nine shows the handle and cam and pin that activates the bolt. Also shown are the double nuts that secure the cam to the opening handle. The cam and handle are very worn, so that I cannot see how they were connected together. I opted to file out a hole in the handle spindle and part of the cam and install a woodruff key to hold them both together. It worked out

quite well, and the unit is again functioning perfectly.

The hardest part of the job, besides photographing as I worked, was that the darn drawer weighed about 95 pounds and was extremely front heavy. It was filled with cement or other insulating material which made it too heavy to be easily and safely handled. It just missed falling on my foot.

So the next time that someone tells you something is loose on a safe, be prepared to spend a little time fixing the problem, and do not quote a price in advance. To remove the back of the file drawer from the front required about 10 minutes work. Four screws and two hidden screws had to be removed and the back of the drawer pounded off the front of the cabinet. It is easier when the drawer is removed from the cabinet and can be set face down before separating the two units. Any other way will cause problems and can be dangerous. Open and prosper. ■

News From ALOA

"Wersonick, who will lead the organization until July 1991, said her chief goals are to raise consumer awareness of ALOA and the PRP program, and to expand chapterization."

Wersonick Elected President of ALOA

Evelyn Wersonick, CML, has become the first woman to be elected president of the Associated Locksmiths of America Inc. She was selected for the position at ALOA's annual membership meeting July 7 in Atlanta, defeating nominee Jerry McNickle, CML.



The second woman ever to serve on the ALOA Board of Directors, Wersonick was nominated from the floor, just as she was when first elected to the Board in 1979. Wersonick, who will lead the 33-year-old organization until July 1991, said her chief goals as president are to raise consumer awareness of ALOA and the Proficiency Registration Program (PRP), and to expand the association's chapter program.

Wersonick said she would also like to see ALOA expand its chapter program both nationally and abroad. To help this expansion happen, Wersonick has responded to the recent interest expressed by predominantly Hispanic groups in Puerto Rico, Mexico and Florida in becoming ALOA chapters by tapping her own Hispanic heritage.

Wersonick's father, Vince Vigil, ALOA member #8, was one of the founders of the association in 1956.

Wersonick grew up working in her parents' combination lock and appliance repair shop.

Wersonick first became involved in locksmith association work in the mid-70's when she played a key role in revitalizing the nearly defunct New Mexico Locksmith Association, serving the group as secretary, vice president and president. Encouraged by ALOA Board members Jim Mullaney and John Shandy, Wersonick was nominated from the floor at the ALOA '79 convention in her hometown of Albuquerque and was elected.

In her decade on the Board, Wersonick has served as a director and Southwest vice president. She is a member of New Mexico Locksmiths Association, ASIS, and the Texas Locksmiths Association. In 1986 she received the coveted Philadelphia Award for her outstanding contributions to the industry.

New Officers Elected

Sixteen new officers were elected at ALOA's annual membership meeting July 7 in Atlanta.

In addition to the election of Evelyn Wersonick, CML, as president, John Shandy, CML, was elected sergeant at arms. Shandy and the six vice presidents elected were unopposed. The new vice presidents are: Henry Printz, CML, Northeast region; Breck Camp, CML, Southeast region; Michael Cutler, CML, North Central region; James Watt, CML, Northwest region; Kenneth Lussier, Sr., CPL, Southwest region; and Dale Letsinger, RL, South Central region.

In addition, eight positions for directors were filled. John Kerr, RL; David Lowel, CML; David Paulsrud, CML; and Herman Stroud, CML, were elected to three-year terms.

Steve Engel, CPP, CML; Steve Mead, RL; and Irene Wickward, CPL, were elected to one-year directorships. Dana

Barnum, CML, was appointed to be a one-year director. Jerome Andrews, CML; A.J. Hoffman, CML; and Anthony Ramunno, CML, were appointed to the Board as committee members.

Moody Joins ALOA Staff

The Associated Locksmiths of America Inc. enhanced its staff by selecting David Moody as the new director of membership and chapter relations, effective August 1.



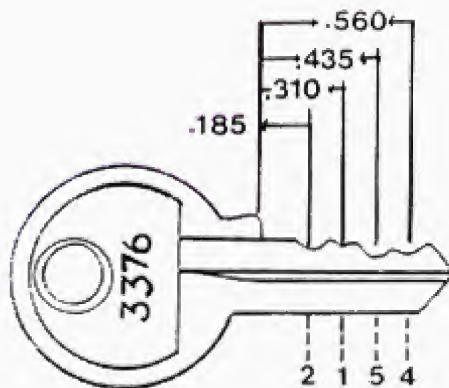
A Certified Association Executive, Moody, 36, comes to ALOA with 10 years experience in association management. Before his current position, Moody was executive director of the Austin Contractors and Engineers Association, a local trade group set up to lobby local city government. He served three-and-a-half years in that capacity. Prior to that, Moody was member services manager of the statewide Texas Safety Association, where his responsibilities included handling member relations, the trade show and several publications. He is a native of Lamesa, TX. Moody and his wife, Valerie, have two boys: Clark, 4, and Bryce, 18 months.

Moody will direct ALOA membership recruitment and retention efforts, and coordinate the association's chapters across the country. ■

Master Large Pin Codes

1-3200

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DEPTHS

0-0.275	5-0.200
1-0.260	6-0.185
2-0.245	7-0.170
3-0.230	8-
4-0.215	9-

KEYWAYS

Master 1K

Important Note: Recently, with the help of our readers, we filled in many unknown Master Codes above 3000. If you can, send us any of the codes missing from this series. We'll then reprint the updated codes. Send your codes to: Editor, The National Locksmith, 1533 Burgundy Pkwy., Streamwood, IL 60107.

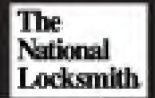


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1-3200 MASTER

Keyblanks:
 ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:
 1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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1-3200 MASTER

Keyblanks:

ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:

1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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1-3200 MASTER

Keyblanks:

ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:

1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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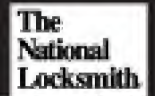
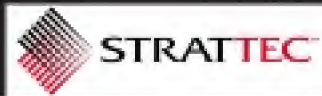


1-3200 MASTER

Keyblanks:
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 ILCO N1092
 HPC 70

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 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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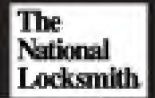
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 ILCO
 HPC

1K
 N1092
 70

Code Machines:

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 Codemax No. 2 - 050
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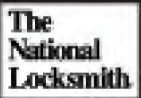


1-3200 MASTER

Keyblanks:
 ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:
 1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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1-3200 MASTER

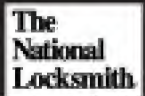
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ORIGINAL 1K
ILCO N1092
HPC 70

Code Machines:

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Codemax No. 2 - 050
DSD Page Ref. 1-28

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21 0	71 0	21 0	71 0	21 0
22 0	72 0	22 0	72 0	22 0
23 0	73 0	23 0	73 0	23 0
24 0	74 0	24 4232	74 0	24 0
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26 0	76 0	26 0	76 0	26 0
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33 0	83 0	33 0	83 0	33 0
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35 0	85 0	35 0	85 0	35 0
36 0	86 0	36 0	86 0	36 0
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44 0	94 0	44 0	94 0	44 0
45 0	95 0	45 0	95 0	45 0
46 0	96 0	46 0	96 0	46 0
47 0	97 0	47 0	97 0	47 0
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1-3200 MASTER

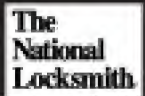
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ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:

1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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55 0	05 0	55 0	05 0	55 0
56 0	06 0	56 0	06 0	56 0
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58 0	08 0	58 0	08 0	58 0
59 0	09 0	59 6235	09 0	59 0
60 0	10 0	60 0	10 0	60 0
61 0	11 0	61 0	11 0	61 0
62 0	12 0	62 0	12 0	62 0
63 0	13 0	63 0	13 0	63 0
64 0	14 0	64 0	14 0	64 0
65 0	15 0	65 0	15 0	65 0
66 0	16 0	66 0	16 0	66 0
67 0	17 0	67 6243	17 0	67 0
68 0	18 0	68 0	18 0	68 0
69 0	19 0	69 0	19 0	69 0
70 0	20 0	70 0	20 0	70 0
71 0	21 0	71 0	21 0	71 0
72 0	22 0	72 0	22 0	72 4343
73 0	23 0	73 0	23 0	73 1411
74 0	24 0	74 0	24 0	74 0
75 0	25 0	75 0	25 0	75 0
76 0	26 0	76 0	26 0	76 0
77 0	27 0	77 0	27 0	77 0
78 0	28 0	78 0	28 0	78 0
79 0	29 0	79 0	29 0	79 0
80 0	30 0	80 0	30 0	80 0
81 0	31 0	81 0	31 0	81 0
82 0	32 0	82 0	32 0	82 0
83 0	33 0	83 4341	33 0	83 0
84 0	34 0	84 0	34 0	84 0
85 0	35 0	85 0	35 0	85 0
86 0	36 0	86 0	36 0	86 0
87 0	37 0	87 0	37 0	87 0
88 0	38 0	88 0	38 0	88 0
89 0	39 0	89 0	39 0	89 0
90 0	40 0	90 0	40 0	90 0
91 0	41 0	91 0	41 0	91 0
92 0	42 0	92 0	42 0	92 0
93 0	43 0	93 1365	43 0	93 0
94 0	44 0	94 0	44 0	94 0
95 0	45 0	95 0	45 0	95 0
96 0	46 0	96 0	46 0	96 0
97 0	47 0	97 0	47 0	97 0
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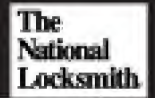


1-3200 MASTER

Keyblanks:
ORIGINAL 1K
ILCO N1092
HPC 70

Code Machines:
1200 CM No. 35
Codemax No. 2 - 050
DSD Page Ref. 1-28

2001	2051	2101	2151	2201
01 5233	51 6325	01 5456	51 4246	01 3251
02 5341	52 6434	02 5621	52 4353	02 3363
03 5445	53 4235	03 3236	53 4462	03 3515
04 5553	54 4342	04 3351	54 4565	04 3635
05 3225	55 4446	05 3456	55 5252	05 6344
06 3336	56 4553	06 3624	56 5356	06 6453
07 3445	57 5241	07 6333	57 5465	07 4254
08 3554	58 5345	08 6442	58 5625	08 4362
09 6322	59 5453	09 4243	59 3244	09 4466
10 6431	60 5563	10 4346	60 3355	10 4623
11 4232	61 3233	11 4454	61 3512	11 5256
12 4335	62 3344	12 4562	62 3632	12 5365
13 4442	63 3453	13 5245	63 6341	13 5615
14 4546	64 3621	14 5353	64 6446	14 5633
15 5234	65 6326	15 5462	65 4251	15 3252
16 5342	66 6435	16 5622	66 4354	16 3364
17 5446	67 4236	17 3241	67 4463	17 3521
18 5554	68 4343	18 3352	68 4566	18 3636
19 3225	69 4451	19 3462	69 5253	19 6345
20 3341	70 4554	20 3625	70 5362	20 6454
21 3446	71 5242	21 6334	71 5512	21 4255
22 3562	72 5346	22 6443	72 5626	22 4363
23 6323	73 5454	23 4244	73 3245	23 4512
24 6432	74 5564	24 4351	74 3356	24 4624
25 4233	75 3234	25 4455	75 3513	25 5262
26 4336	76 3345	26 4563	76 3633	26 5412
27 4443	77 3454	27 5246	77 6342	27 5521
28 4551	78 3622	28 5354	78 6451	28 5634
29 5235	79 6331	29 5463	79 4252	29 3253
30 5343	80 6436	30 5623	80 4355	30 3412
31 5451	81 4241	31 3242	81 4464	31 3522
32 5556	82 4344	32 3353	82 4621	32 3641
33 3231	83 4452	33 3463	83 5254	33 6346
34 3342	84 4555	34 3626	84 5363	34 6455
35 3451	85 5243	35 6335	85 5513	35 4256
36 3563	86 5351	36 6444	86 5631	36 4364
37 6324	87 5455	37 4245	87 3246	37 4513
38 6433	88 5565	38 4352	88 3362	38 4625
39 4234	89 3235	39 4456	89 3514	39 5263
40 4341	90 3346	40 4564	90 3634	40 5413
41 4445	91 3455	41 5251	91 6343	41 5522
42 4552	92 3623	42 5355	92 6452	42 5635
43 5236	93 6332	43 5464	93 4253	43 3254
44 5344	94 6441	44 5624	94 4356	44 3413
45 5452	95 4242	45 3243	95 4465	45 3523
46 5556	96 4345	46 3354	96 4622	46 3642
47 3232	97 4453	47 3464	97 5255	47 6351
48 3343	98 4556	48 3631	98 5364	48 6456
49 3452	99 5244	49 6336	99 5514	49 4262
50 3564	00 5352	50 6445	00 5632	50 4365



1-3200 MASTER

Keyblanks:
 ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:
 1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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51 4514	01 3521	51 5322	01 6414	51 5545
52 4626	02 3651	52 5426	02 6524	52 3326
53 5264	03 6355	53 5534	03 4323	53 3441
54 5414	04 6512	54 5651	04 4426	54 3546
55 5523	05 4266	55 3314	05 3314	55 6563
56 5636	06 4414	56 3426	06 4645	56 6423
57 3255	07 4523	57 3535	07 5326	57 6532
58 3414	08 4634	58 3662	08 5434	58 4331
59 3524	09 5314	59 6364	09 5542	59 4434
60 3643	10 5423	60 6521	10 5662	60 5442
61 6352	11 5531	61 4315	11 3323	61 4653
62 6462	12 5644	62 4423	12 3434	62 5334
63 4263	13 3264	63 4531	13 3543	63 5442
64 4366	14 3423	64 4642	14 6544	64 5546
65 4515	15 3432	65 5323	15 6415	65 3332
66 6431	16 3652	66 5431	16 6525	66 3442
67 5265	17 6356	67 5535	17 4324	67 3351
68 5415	18 6513	68 5652	18 4431	68 4212
69 5524	19 4312	69 3315	19 4535	69 6424
70 5641	20 4415	70 3431	20 4646	70 6533
71 3256	21 4524	71 3536	21 5331	71 4332
72 3415	22 4635	72 3663	22 5435	72 4435
73 3525	23 5315	73 6412	23 5543	73 4543
74 3644	24 5424	74 6522	24 4663	74 4654
75 6353	25 5532	75 4321	25 3324	75 5335
76 6463	26 5645	76 4424	26 3435	76 5443
77 4264	27 3312	77 4532	27 3544	77 5551
78 4412	28 3424	78 4643	28 6545	78 3334
79 4521	29 3533	79 5324	29 6421	79 3443
80 4632	30 3653	80 5432	30 6526	80 3552
81 5312	31 6362	81 4426	31 4325	81 4223
82 5421	32 6514	82 5653	32 4432	82 6425
83 5525	33 5413	83 3321	33 4536	83 6534
84 5642	34 4421	84 3432	34 4651	84 4333
85 3262	35 4525	85 3541	35 5332	85 4436
86 3421	36 4636	86 6542	36 5436	86 4544
87 3526	37 5321	87 6413	37 5544	87 6536
88 3645	38 5625	88 6523	38 4225	88 5336
89 6354	39 5263	89 4322	39 3325	89 5444
90 6464	40 5646	90 4425	40 3436	90 5552
91 4265	41 3313	91 4533	41 3545	91 3335
92 4413	42 3425	92 4644	42 5420	92 3444
93 4522	43 3534	93 5325	43 6422	93 3553
94 4633	44 3654	94 5433	44 6531	94 4224
95 5313	45 6363	95 5541	45 4326	95 6426
96 5422	46 6515	96 5654	46 4433	96 6535
97 5526	47 4314	97 3322	47 4541	97 4334
98 5643	48 4422	98 3433	48 4652	98 4441
99 3263	49 4526	99 3542	49 5333	99 4545
00 3422	50 4641	00 6543	50 5441	00 6541



1-3200 MASTER

Keyblanks:
 ORIGINAL
 ILCO
 HPC

1K
 N1092
 70

Code Machines:

1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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02 1464	52 5121	02 2153	52 2334	02 2226
03 2135	53 3132	03 2345	53 6223	03 2414
04 5246	54 1522	04 2532	54 2364	04 1414
05 6214	55 1244	05 1425	55 4122	05 2145
06 2331	56 4152	06 2253	56 1445	06 2653
07 5226	57 6235	07 5146	57 5132	07 2352
08 1225	58 1431	08 3114	58 3135	08 4155
09 3142	59 3125	09 1442	59 2412	09 1265
10 2325	60 2633	10 1465	60 1316	10 1555
11 5125	61 1353	11 3151	61 3142	11 1252
12 2526	62 4146	12 2324	62 6244	12 1412
13 4134	63 6346	13 2362	63 2142	13 2235
14 1434	64 1366	14 4141	64 5221	14 5231
15 3122	65 2525	15 1322	65 2413	15 2144
16 1264	66 4144	16 3451	66 2154	16 2562
17 1521	67 1435	17 6313	67 3324	17 3221
18 5154	68 1512	18 5166	68 2524	18 1223
19 1333	69 2366	19 2344	69 2214	19 2265
20 4151	70 5124	20 1534	70 6242	20 2424
21 2356	71 2254	21 1242	71 1362	21 5131
22 6233	72 4226	22 3213	72 6222	22 2126
23 3124	73 1224	23 2641	73 2333	23 1543
24 1435	74 2464	24 5155	74 2652	24 1335
25 1253	75 1422	25 1235	75 2466	25 3133
26 1314	76 2132	26 2651	76 1544	26 2213
27 5324	77 2446	27 1352	77 6226	27 1226
28 2136	78 2531	28 2305	78 1315	28 1251
29 4124	79 5214	29 6312	79 3156	29 2336
30 2322	80 1342	30 2341	80 1542	30 2534
31 6264	81 4123	31 4222	81 5126	31 5142
32 2351	82 2321	32 1443	82 3112	32 3223
33 2124	83 2623	33 3113	83 2246	33 1451
34 1436	84 1463	34 1255	84 1231	34 1466
35 2242	85 6224	35 5151	85 2645	35 3131
36 6225	86 2251	36 2266	86 1515	36 2256
37 2355	87 5256	37 6241	87 1245	37 1441
38 4142	88 2346	38 1313	88 4154	38 2415
39 1541	89 3131	39 2465	89 2556	39 0451
40 6234	90 2565	40 2635	90 1341	40 2621
41 3123	91 2323	41 5215	91 5123	41 4614
42 1521	92 1566	42 2232	92 2245	42 2541
43 3244	93 3145	43 4126	93 2421	43 6321
44 5212	94 2241	44 3365	94 6315	44 4156
45 1564	95 2634	45 2624	95 2453	45 1332
46 3212	96 2646	46 2445	96 1325	46 4246
47 2255	97 4153	47 1532	97 3146	47 2432
48 4143	98 2436	48 2143	98 2332	48 2565
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1-3200 MASTER

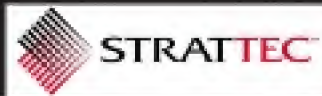
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ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:

1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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52 2234	02 3663	52 3153	02 1312	52 5466
53 2654	03 6251	53 5223	03 3115	53 6551
54 1224	04 1343	54 2554	04 1351	54 2236
55 6245	05 2521	55 1413	05 5153	55 2515
56 1324	06 5131	56 1225	06 1421	56 2115
57 2264	07 2552	57 4213	07 2146	57 4121
58 2423	08 1243	58 2444	08 4132	58 2411
59 1425	09 2455	59 4114	09 2463	59 6265
60 1562	10 1424	60 1553	10 1532	60 1231
61 2334	11 2156	61 2225	11 1254	61 6402
62 2456	12 2544	62 6246	12 3125	62 0453
63 1321	13 4113	63 4214	13 6232	63 2662
64 2464	14 1452	64 1364	14 4231	64 4411
65 5143	15 2123	65 2535	15 2326	65 5655
66 1354	16 2425	66 6263	16 5122	66 2155
67 6252	17 4131	67 1532	17 3154	67 0
68 2433	18 2262	68 1245	18 1536	68 1221
69 1446	19 1514	69 4133	19 4135	69 3555
70 1232	20 2152	70 2365	20 1555	70 5115
71 2215	21 4215	71 5145	21 2622	71 6311
72 6223	22 2223	72 1426	22 5232	72 4266
73 1363	23 5134	73 2155	23 3325	73 0
74 2522	24 2442	74 6215	24 3664	74 0262
75 2125	25 1556	75 2314	25 2233	75 1154
76 2353	26 3224	76 1423	26 1455	76 3411
77 6254	27 2534	77 1263	27 5135	77 6366
78 1535	28 1335	78 2124	28 1513	78 4112
79 1262	29 2642	79 2452	29 3215	79 2655
80 3222	30 2435	80 6231	30 1241	80 4664
81 1334	31 1533	81 2513	31 1415	81 0465
82 3141	32 3152	82 2563	32 3121	82 4202
83 2312	33 2313	83 1233	33 5144	83 1143
84 2543	34 5224	84 2434	34 1563	84 3311
85 5136	35 2451	85 2251	35 2141	85 6634
86 6212	36 1323	86 1523	36 3155	86 2121
87 1232	37 2553	87 2343	37 5152	87 2402
88 1246	38 2422	88 6253	38 2631	88 0
89 1462	39 2625	89 2545	39 1346	89 3023
90 6262	40 2231	90 1365	40 1551	90 0421
91 5225	41 2443	91 2134	41 0346	91 3556
92 2462	42 2533	92 2555	42 2454	92 1212
93 4212	43 2536	93 5133	43 4311	93 2665
94 2644	44 1531	94 1525	44 2023	94 1226
95 1331	45 2133	95 2542	45 1135	95 5214
96 6221	46 2441	96 1345	46 3265	96 2511
97 2354	47 2554	97 6255	47 5113	97 4662
98 2515	48 1344	98 5141	48 2212	98 4556
99 2545	49 2551	99 2242	49 4031	99 0
00 2512	50 6256	00 1236	50 1156	00 6636



1-3200 MASTER

Keyblanks:
 ORIGINAL 1K
 ILCO N1092
 HPC 70

Code Machines:
 1200 CM No. 35
 Codemax No. 2 - 050
 DSD Page Ref. 1-28

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03 0	53 0	03 6135	53 7147
04 0	54 0423	04 2012	54 7420/6420
05 2126	55 0	05 0235	55 2013
06 0	56 4015	06 1130	56 0143
07 0	57 0154	07 6157/6144	57 4103
08 0	58 6630	08 0377	58 6113
09 0	59 0125	09 6465/6466	59 2301
10 0	60 0414	10 0	60 0
11 0	61 4406	11 0122	61 0224
12 0	62 0142	12 0	62 0
13 0	63 0	13 0145	63 0405
14 0	64 4123	14 0	64 1455
15 0	65 2316	15 6411	65 6655/5541
16 0	66 0211	16 0	66 7142
17 0	67 0324	17 0	67 5401/6116
18 0	68 7257	18 0433	68 0547
19 0	69 0262	19 0	69 2014
20 0	70 2401	20 0334	70 4216
21 6316	71 0133	21 6316	71 0235
22 0	72 0156	22 4441	72 0
23 0	73 0	23 0231/1343	73 5416
24 0	74 3164	24 6115	74 6117
25 0	75 0	25 6155/6254	75 1573
26 0	76 0255	26 0	76 0
27 0	77 0	27 6340	77 2216
28 0	78 0124	28 0153	78 1151
29 0	79 0	29 3426/3416	79 0
30 1401	80 0221	30 2251	80 7377
31 4042	81 0	31 2511	81 2620
32 1131	82 3317/3316	32 6023/6123	82 7122
33 0	83 6132/5233	33 4355	83 0325
34 0	84 4315	34 0123	84 6430
35 3012	85 0	35 0	85 6253
36 6646	86 6126	36 0	86 0433
37 4014	87 6652	37 0	87 6240
38 0335	88 1511	38 0442	88 0
39 0	89 0	39 1217	89 0155
40 5516	90 0	40 4516	90 2416
41 0133	91 3013	41 0135	91 4220
42 0127	92 2116	42 5314	92 6653
43 0	93 0152	43 5665/4554	93 4104
44 0253	94 6112	44 0	94 0132
45 0	95 6626	45 5144	95 5301
46 0146	96 1331	46 0223	96 2014
47 0314	97 4012	47 6640	97 5566
48 0355	98 1233/6152	48 0	98 1324
49 0131	99 0	49 3150	99 6133
50 0	00 4102/0244	50 3516	00 1316

Shop Talk

Helpful Questions and Answers

Written by all of the following authors: Shirl Schamp, Dave McOmie, Jack Roberts, Don O'Shall, Robert Sieveking, and Dale Libby.

Send your locksmith questions, along with a self-addressed stamped envelope to: Shop Talk, The National Locksmith, 1533 Burgundy Pkwy., Streamwood, IL 60107.

This month Shop Talk is catching up on some of our mail. Sometimes you good people write to us with more information for a fellow Shop Talker. We appreciate it. So here are a few letters we've been meaning to publish. Thanks to those who have written us with additional information for Shop Talk!

Please pass the following information on to Randy Railton whose letter appeared in *Shop Talk*, July issue, page 165.

I have five or six pieces, keyed alike, two keys each, Bellock Cam Locks, as described in his letter. Keys are grooved on both sides. Distance from the back of the face to the front of cam is $\frac{3}{8}$ ". The cam is $\frac{1}{8}$ " thick, $\frac{3}{8}$ " wide, and $1\frac{1}{2}$ " long (bolt hole to tip). The cam has 90 degree rotation, and the key is removable in the locked position only.

If Randy is interested in a pair of these, he should get in touch. It is nice talking to you; keep up the good work. My address is 39 Tinker St., Woodstock, NY 12498.

Steve Fineman
New York

This letter is in reference to Cy Rolins from Delaware. He asked a question about installing deadbolt locks with the center seam. (Shop Talk, July 1989.) I have installed many of these critters on steel commercial doors with a center seam and use the following method.

After drilling the cross bore hole, I

set up my drill jig and use a $\frac{63}{64}$ " drill in a $\frac{1}{2}$ " motor, then I use a rat tail file very gently to enlarge the hole to tap in a drive bolt. This makes a very snug fit and it won't move. As a general rule, there is usually enough gap between the door and the jamb to surface mount the strike plate with sheet metal screws. It works for me.

Also I enjoyed the answer in that same column to Lawrence Peters who asked about the different types of glove box locks. All the information in that answer was great and I learned something from it. Here's a suggestion on the Chrysler lock. After cutting the 2, 3, and 4 cuts, I use a progression chart for the 1 and 5 cuts. It works every time. Here's my chart:

1st Key	2nd Key	3rd Key	4th Key	5th Key
1 1	2 1	4 1	2 4	1 3
1 2	3 1		2 5	1 4
2 2	3 2		3 5	1 5
2 3	4 2		3 6	1 6
3 3	4 3		4 6	2 6
3 4				
4 4				
4 5				

Wayne Ramsey
North Carolina

Q: A customer brought me a safe a few months ago and told me that if I got it open, I could keep it. Believe me, this will not be an easy task. It appears that somebody tried to get it open because the dial had been sawn off and, the spindle has been punched into the safe itself. (See photograph 1.) The safe is greyish, tan in color, with the hinges on the right exterior. It appears to be a Sentry with numbers on the lower right corner, 257120. It weighs between 100 and 200 pounds and I think there is a shelf inside because I hear it rattling.

Since there is no visible way of opening this, I would appreciate diagrams of drill points and any information on a



1. Damaged safe in need of opening.

replacement unit. Which model(s) would best suit the safe itself in terms of a replacement dial?

Gilles Deacur
Ontario, Canada

A: Gilles, I hate to say it, but you have got yourself an easy one. Drill a $\frac{1}{4}$ " hole 1" left of center, manually probe the wheel gates around to the hole, and throw the handle. She's open! 04



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Letters

Continued from page 6

knoblock and deadbolt with different keys. The cabin door was warped with pressure on the bolts and the deadbolt was jammed. At 5 above zero and in the dark, I decided to wait for warmer weather and daylight with her understanding.

On the next trip out on a nice day, I quickly removed the deadbolt with a cordless drill, removed the bolt, and the door operated alright. After installing a new deadbolt and redrilling the mountings the two battery packs for my drill were dead. The strike plate was only ¼" deep, the power was shut off for the winter and the closest outlet was 450 feet away. I managed to use hand tools to complete the job to my satisfaction. After I finished, I dropped the keys and bill off at her office.

She called back two weeks later and stated she was still having problems, and I agreed to go out to the cabin with her and go over how to operate the locks. When we arrived she could not find the knoblock keys in her van, but we had the deadbolt key. After going through the snowdrift I found the door had shifted slightly, but the deadbolt worked fine. My rechargeable flashlight then died while we were at the door. We took her van so I had no tools. She said that the keys must be back at her office and if she had any further problems she would call back.

She called back three days later, unable to locate the keys. The cabin was to be shown to a client the following weekend. I quickly suggested a new lockset keyed to the deadbolt. Taking a trip out to the cabin again, I quickly opened the knob and installed a new lockset and strike plate large enough to allow for shifting, all with the help of a large friendly dog trying to lick me. I made sure everything worked and left another bill at the office.

The weekend came and the phone rang. The realtor locked the keys to her van inside.

The client bought the cabin.

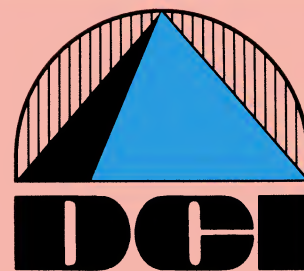
Jerry Dorf
Minnesota

Technitips

Continued from page 14

wafers to become #2 wafers as you can see in illustration eight.

This method is considerably better than filing the outside of the wafers. The wafers would have become a master



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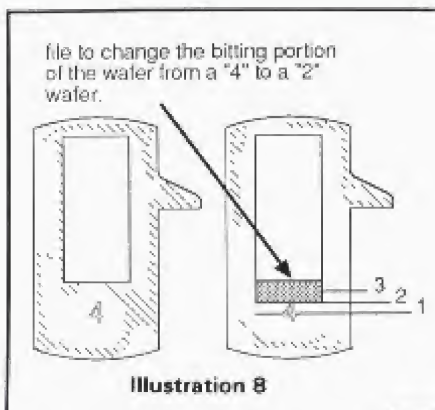
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wafer, fitting "both" the four and two depth cuts (and the three depth) if the outside of the wafer had been filed. This method got the job done, without affecting the security of the lock cylinder.

Larry Wright
South Carolina

Nissan Axxess

Continued from page 24

wafers come in from one direction and the other four from the opposite direction. This means both sides have to be cut before the key will operate the locks. This is a true double-sided lock. The proper code card to use with the 1200 CM is XF67.

Spacing and depth information is as follows: spacing bow to tip: .118-.201-.283-.366-.449-.532-.614-.697. Depths: (1)=.276 (2)=.256 (3)=.239 (4)=.219.

Last but not least we should explore the rear door lock. You will notice in photograph 13 that the lock is mounted near the right hand edge of the door. If



13. The Axxess rear door lock.

you open the door you can see where we really get lucky. They have placed an inspection door almost directly behind the lock. It is probably there so you can replace a bulb in the light, but we will use it to remove the clip holding the lock in. It's easier than pulling the door panel. What we can conclude is, if it's just a key you are interested in making and there is no code in the glove compartment, go to the back door.

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That lock has the window also.

I can't leave this article without telling you that I really think the Nissan Axxess is a nice car. I bought one and it serves as a mini service van. I don't want to fill it up with all that dirty equipment yet, but it's prepared to do the quicky calls. ■

Slide Lock Tool

Continued from page 57

The result is Slide Lock Tool Co.'s premium lockout set known as the Z-Tool Set. It has an instruction book offering detail in a compact manual that fits into any size glove box. It's the first to cover over 620 models in a four-step format including all models of the 50's, 60's, 70's and 80's—right up to the 1990 300Z. With easy and precise two color illustrations, Z-Tool Manual shows how to unlock these models with the use of only *one* versatile tool.

The convenience of carrying only one tool and one manual to the job site has caught on so well that the company has doubled their production capabilities. With an art department, in-house printing facilities, and an automated machine shop set up for Z-Tool production, the company is able to keep the cost of their product low.

Circle 225 on Rapid Reply

Steadfast Corporation

Steadfast Corporation manufactures an anti-theft device for cars that has aroused great interest among locksmiths. The system is designed to prevent a thief from stealing automobiles by either "popping" the ignition or breaking the plastic steering column housing and gaining access to the internal working parts. In these times of high tech, electronic gadgetry, the Steadfast system of enclosing the lock mechanism and steering column with a tight fitting, hardened steel housing is simple yet highly effective. The system is installed permanently and does not require a second key nor does it affect the normal operation of the car in any way.

Introduced in 1981, initial car sales of the Steadfast system were targeted at the rental car market to prove its effectiveness and reliability. In 1983-84, over 3000 units were installed on Avis and National cars in Detroit with remarkable results. Theft rates were reduced from around 10% to less than 1%. As a result of their continuing success in halting theft, all the major rental car companies now use the device, and, as word spread about its effectiveness,

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Steadfast began to appoint distributors nationwide.

In 1986, the Steadfast Corporation expanded its manufacturing base with a secondary business of providing aircraft instrumentation for customers such as General Electric. The investment made to bring the company to full qualification as a Military Specification Supplier is reflected in the constant good quality of its products.

The Steadfast anti-theft system is now sold nationwide. Its reputation as a highly effective yet simple device, together with a good profit margin, has appealed widely to locksmiths specializing in car locks and auto theft repairs.

Circle 233 on Rapid Reply

Ford Probe

Continued from page 66

serrations match and engage the serrations on the wafers, to prevent the wafers from being manipulated while turning tension is applied to the plug. This also explains the necessity and importance of the ball detent centering function of the lock cylinder.

I sincerely hope that the auto makers will spend more time designing vehicles that can be worked on without so much difficulty. I hate to say it, but most of the foreign autos that I see are designed to be less complicated and more easily serviced. Simplicity is the key, unless you are designing something you want to become obsolete because it is uneconomical to repair.

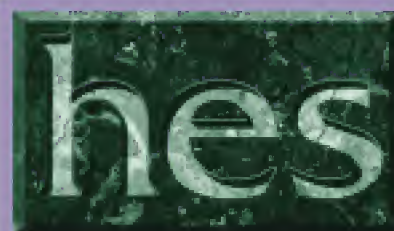
We normally charge \$25 each, to remove and replace and deck locks on most American cars. Keying is a separate charge. If you must work on the Probe, adjust your prices accordingly. ■

Art Metal Container

Continued from page 86

see it. The label says 30 man-minutes. Well, to begin with, the dialer is a machine, not a man. And even if we ignore that bit of nonsense, I sincerely doubt the dialer can open either lock in under 30 minutes.

Conclusion? From recent rumors rumbling 'round, I suspect a complete overhaul of the requirements pertaining to GSA containers is forthcoming. And far from bemoaning the advances in technology and the reciprocal responses from industry, I welcome these changes with open arms. It is a simple matter of logic: the better they make them, the harder they are to open; and the harder they are to open, the more it costs...get it? ■



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